Bracebridge District Fisheries Management Plan

1986-2000

Ontario

Ministry of Natural Resources

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Minister

Bracebridge District Fisheries Management Plan

1986-2000

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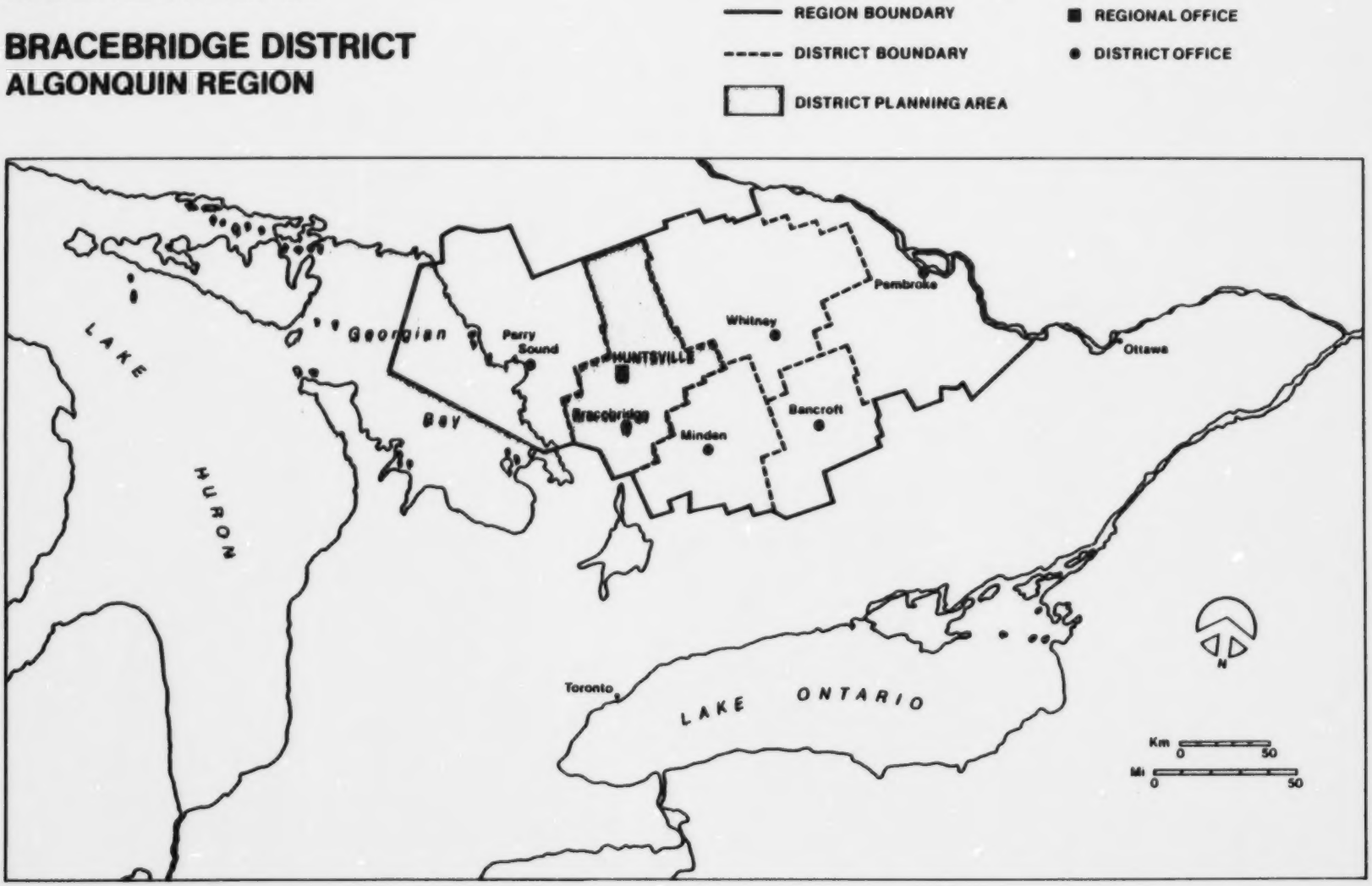
FIGURE 1: REGIONAL SETTING

BRACEBRIDGE DISTRICT
ALGONQUIN REGION



PREFACE

The purpose of this management plan is to provide long term direction (1987 - 2000) and outline specific short term activities (1987 - 1992) for fisheries management within Bracebridge District. The plan was prepared within the general context of the Bracebridge District Land Use Guidelines. Further direction to this plan was provided by "A Summary of Background Information and Optional Management Strategies and Tactics", and "Draft Fisheries Management Plan", and public response to both documents.

This plan contains resource information, management strategies and the first five year implementation schedule. It is designed to provide guidance to local managers as well as indicate future management directions to the public.

District Manager

Regional Director

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this management plan is to identify both long term fisheries management direction and specific short-term (5 year) actions to be followed within Bracebridge District.

The planning area includes 6,282 square km of land and water under the jurisdiction of the Bracebridge District of the Ministry of Natural Resources (Figure 1). All waters in the District, except for that portion administered by the Leslie M. Frost Natural Resources Centre have been considered in this plan, including Lake Joseph and Lake Rosseau in their entirety. A separate fisheries management plan is being prepared for the Leslie M. Frost Natural Resources Centre. Certain boundary waters will be considered within the fisheries plans of adjoining districts: Severn River and Sparrow Lake by Huronia District; Buck, Axe and Little Doe Lake by Parry Sound District.

1.2 PLANNING PROCESS

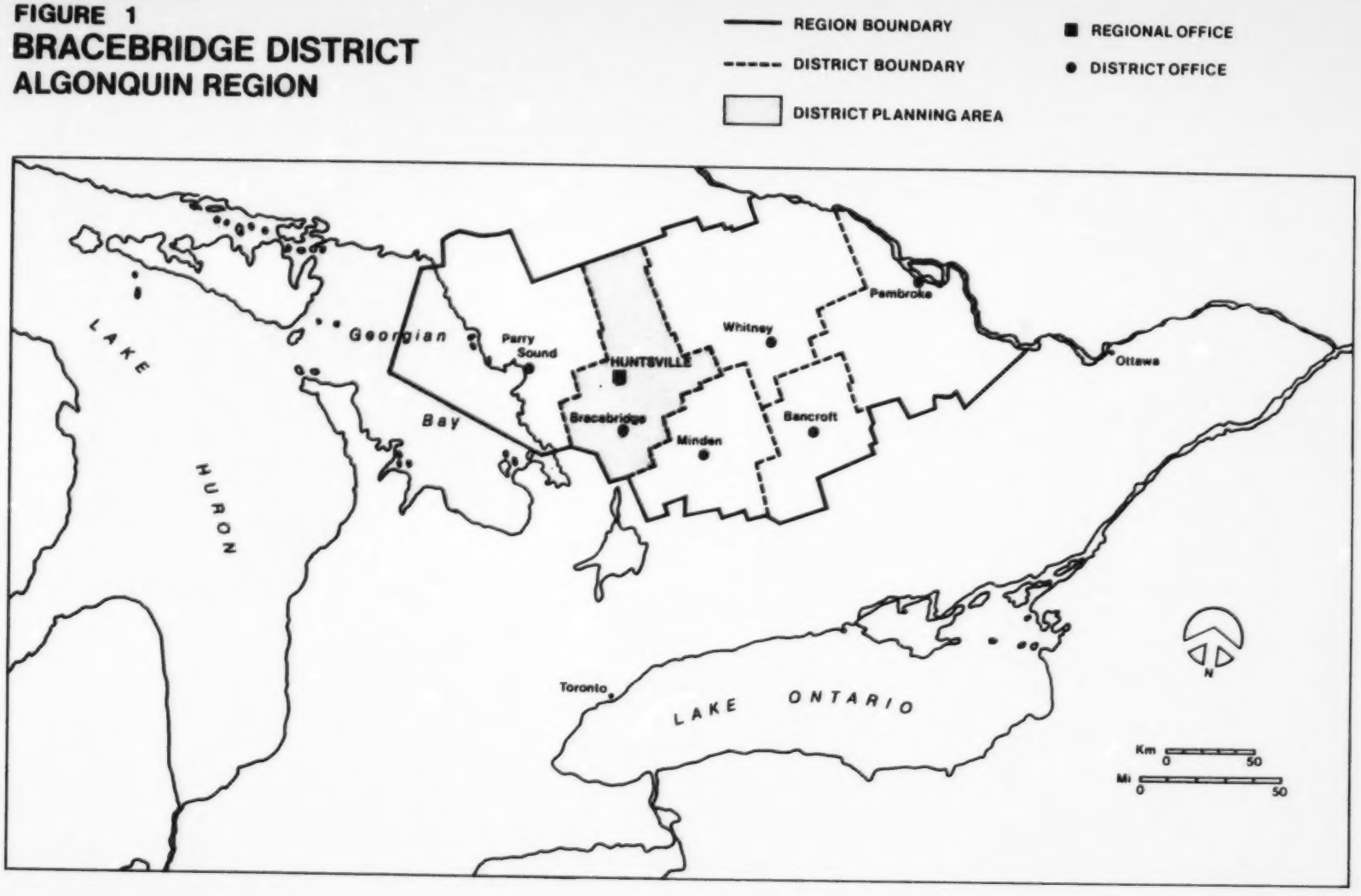
This plan is being prepared within the framework of the Ministry's integrated resource management planning system. Important elements of this system include the Co-ordinated Program Strategy for Southern Ontario (C.P.S.) which outlines the Ministry's intent to provide optimum use of the resources with minimum conflict to achieve established objectives; the District Land Use Guidelines (D.L.U.G.) which provide targets and program direction for individual resource management such as fisheries plans at the District level. It is within the context of this overall direction that the plan is being prepared.

This management plan was prepared in recognition of the following approved district resource management plans and studies; Forest Management Plan (1980 - 2000); Forest Operating Plan (1985 - 1990); and the Access Study Eastern Boundary of Bracebridge District (1985).

REGIONAL SETTING

FIGURE 1

BRACEBRIDGE DISTRICT
ALGONQUIN REGION



This Management Plan summarizes resource information and identifies management actions with consideration of public response to the background document and Draft Management Plan, summarized in Appendix 1. It provides details on specific management strategies and tactics formulated to achieve local fisheries targets within established objectives. To that end, the plan includes an implementation schedule which outlines tactics for the next five years. Annual fisheries work plans will be formulated in accordance with this implementation schedule.

1.3 EXISTING POLICY AND TECHNICAL DIRECTION

This plan adheres to current Ministry of Natural Resources provincial policy and direction provided through the Bracebridge District Land Use Guidelines. Furthermore, all strategies are based upon accepted resource management principles presented in Strategic Planning for Ontario Fisheries (S.P.O.F.) documents, and current technology.

1.4 BACKGROUND REPORTS

Detailed background reports and analysis have been prepared which were utilized in the formulation of this fisheries management plan. These documents are available at the Bracebridge District office and include:

i) Terms of Reference
ii) Detailed Fisheries Background Information
iii) A Summary of Background Information and Optional Management Strategies and Tactics
iv) A Summary of Public Participation, and Response to The Summary of Background Information and Optional Management Strategies and Tactics
v) Bracebridge District Draft Fisheries Management Plan 1987-2000
vi) A Summary of Public Consultation, Bracebridge District Draft Fisheries Management Plan

2.0 DISTRICT FISHERIES PERSPECTIVE

2.1 SETTING

The entire Bracebridge District lies on the Canadian Shield, characterized by rugged relief, shallow sandy soils, good drainage, and concentrations of lake basins. Based on bedrock geology and surface deposits, the District is rated moderately to highly sensitive to acid deposition.

Relatively large coldwater lakes with low productivity within the District typify the Canadian Shield region. Over 75% of the District's surface water is classified as coldwater lakes. Nine lakes larger than one thousand hectares make up over 75% of the coldwater lake area and 56% of the total District lake area.

The abundance of lakes and proximity to southern population centres has made the area a popular year round recreation area, which contributes significantly to the District's economy.

Historical stocking of trout and bass has resulted in the establishment of these species throughout the District where suitable habitat occurs. Extensive stocking of lake and brook trout has been practiced in the past primarily for the purpose of bolstering depressed native stocks. Short growing seasons significantly influence the early survival and growth of introduced warmwater species such as smallmouth and largemouth bass.

2.2 THE RESOURCE

Figure 2, Background Information Map (insert back cover), illustrates warmwater and coldwater lakes and streams, major water level control structures, and sport fish distribution within the District.

The estimated total potential yield of all fish species from 1,300 lakes with a surface area 72,500 hectares and 1,500 hectares of rivers and streams

is 187,000 kg per year. Of this total, 92,300 kg per year, of preferred sport fish, can be removed while allowing for ongoing maintenance of the fish stocks. This is referred to as the allowable harvest and assumes that all waters are producing at full potential. Taking into account those waters not producing at their potential, current allowable harvest is estimated at 70,000 kg, representing a deficiency of 22,300 kg of sport fish annually. The remaining 94,700 kg from the total potential yield, represents baitfish, coarse fish, and undesirable sport fish.

A summary of allowable sport fish harvest, by species, with all waters producing at full potential, is presented in Table I.

2.3 CURRENT AND PROJECTED RESOURCE USE

Table I summarizes current and anticipated use in terms of angling occasions (one occasion equals four hours of angling) and harvest (kg) for sport fish species. It is estimated that the District currently provides 340,000 occasions of angling annually for those species listed in Table I. Angling demand is expected to increase to 390,500 occasions by the year 2000, with a corresponding annual harvest of 110,000 kg of fish. Use estimates for other fish species excluded from Table I, such as yellow perch, smelt, panfish, and suckers, are unavailable but may represent significant additional opportunities.

As indicated by Table I, all the preferred sport fish species trout, bass, and walleye are being over-harvested. Translating the anticipated demand into harvest at current levels of success further increases the potential exploitation level on these preferred sport fish. Even with the resource producing at full potential, the anticipated demand for lake trout and brook trout will exceed the capability by more than 100% at current levels of success. The anticipated demand for smallmouth and largemouth bass and walleye will also exceed the capability of the resource by 20%.

Currently, fish species such as whitefish, herring, yellow perch, bullhead, and panfish make only a minor contribution to the fishery, and are considered well below the allowable harvest. These species may attract a larger percentage of the anticipated participation than estimated.

Table I. RESOURCE USE AND CAPABILITIES

FISHERIES RESOURCE	CURRENT USE *1			ANTICIPATED DEMAND BY THE YEAR 2000 *3		RESOURCE BASE CAPABILITIES	
Species	Occasions *2	Angler Success (kg/opportunity)	Harvest (kg)	Occasions	Harvest (kg)	Allowable Harvest *4 (kg)	Opportunities *12
Lake Trout	106,500	.30	31,900	122,000	36,700	17,300	
Brook Trout	38,500	.20	7,700	44,300	8,800	4,500 *5	
Rainbow Trout/Splake	10,000	.20	2,000	11,500	2,300	1,600 *6	
Whitefish	8,000		1,600	9,200	1,800	8,000	
Non-Producing Coldwater	--		--	--	--	4,500 *7	
Unknown Waters	--		--	--	--	1,600 *8	
TOTAL COLDWATER	163,000		43,200	187,000	49,600	37,500	187,500
Small/Largemouth Bass	127,000	.30	38,100	146,000	43,800	37,500 *9	
Walleye	30,000	.25	7,500	34,500	8,600	5,800	
Northern Pike/Muskie	20,000	.35	7,000	23,000	8,000	8,600	
Non-Producing Warmwater	--	--	--	--	--	2,500 *7	
Unknown Warmwater	--	--	--	--	--	400 *8	
TOTAL WARMWATER	177,000	--	52,600	203,500	60,400	54,800	109,600
OTHER SPECIES *10	--	--	--	--	--		
TOTAL	340,000		95,800	390,500	110,000	92,300 *11	297,100

* Footnotes

1 - based on district creel surveys, 1980 provincial angler survey, and 1980 Lakeshore Capacity Study.

2 - occasion, measure of use equalling four hours of fishing.

3 - anticipated demand, based on current user plus 15% use increase, anticipated harvest is based on current angler success values.

4 - allowable harvest, the best estimate of sports fish available to anglers on an annual basis while allowing for maintenance of fish stocks.

5 - includes 1,000 kg of stream brook trout.

6 - based on present level of rainbow and splake stocking, plus

7 - represents the allowable harvest obtainable from waters not currently producing but have the potential to do so.

8 - represents allowable harvest from waters which little is known, but assumed to have potential.

9 - includes 1,400 kg of river production.

10 - others include yellow perch, panfish, bullheads, smelt, ling.

11 - the total allowable harvest is based on all waters producing at full potential, which is not presently occuring.

12 - opportunities; measure of supply equalling four hours of fishing. Based on provincial catch standards of 0.2 kg per opportunity coldwater ar 0.5 kg per opportunity warmwater.

Angler effort for lake trout and brook trout is considered to be higher for the open water season than for the winter. Harvest, however, appears to be about equal for the two periods, since better angler success tends to be during the winter. Walleye and northern pike also provide year round opportunities, whereas smallmouth and largemouth bass are the mainstay of the summer fishery.

The 1980 Provincial Angler Survey estimated that 77% of the total resident anglers fishing within the District originate from central and southwestern Ontario, with 18% from within the Algonquin Region. The resident angler effort from outside the region is associated with the summer influx of cottagers and tourists. Angling by non-residents of Ontario was estimated at less than 4%.

There are no commercial fishing licences, other than bait-fish, within the District. On average there have been 27 bait-fish harvest licences and 38 bait-fish dealer's licences issued annually and a reported harvest of approximately 22,000 dozen bait-fish. Harvests, based on reported data probably represent minimal levels. While the number of bait fishermen has varied little in recent years, the harvest has increased, and will likely continue to meet anticipated demand in sport fishing. Little is known of bait-fish productivity and so the influence of further exploitation on bait-fish and sport fish populations dependent on the former is unknown.

A total of 313 establishments offer accommodations to fishermen in the Bracebridge District (Ont. Min. Industry and Tourism, 1981). Currently the fishery resource is reported to play only a small role in attracting tourists to the area. This minor role is a result of declining angling success over the years related to depleted fish stocks. Many tourism operations originally established on sport fishing, have since diversified operations to include other recreational activities in response to declining fishing success. Native brook trout, lake trout and walleye are the fish species likely to attract anglers from outside the District.

2.4 PROBLEMS AND ISSUES

A number of problems and issues affecting the District fisheries resource and its management have been detailed in earlier background documents including the District Land Use Guidelines. Problems identified by the public during consultation were for the most part specific confirmation of documented problems. During public consultation the use of fish finders, downriggers and ice huts were commonly perceived as contributing to the overharvest of lake trout. The public perceived contaminants and water level fluctuations as being the most significant problems.

Problems and issues are briefly summarized below. For further detailed information see earlier background documents.

i) Over-Harvest

Over-harvest occurs when the amount of fish removed from a waterbody exceeds the capability of the populations to naturally replace the loss. Continued over-harvest results in a depletion of fish stocks and loss of angling opportunities and quality. This may eventually lead to imbalances in the fish community, with increases in less desirable species in response to the reduction of top predators.

Over-harvest of native lake trout and brook trout populations within the District is considered extensive. Whereas the over-harvest of smallmouth bass and walleye is likely restricted to a few smaller lakes receiving intensive fishing pressure. There is concern regarding the delayed recovery of some smallmouth bass populations from over-harvest despite reduced angling pressure.

Angler preference for trout, increasing demand, and increased accessibility by snowmobile and all terrain vehicles contribute to the over-harvest situation. More efficient gear such as fish finders may also contribute. The underlying management problem is how to meet user demands for these desired sport fish within the capability of the resource.

ii) Fish Introductions/Invasions

Within District waters the following introductions are thought to be responsible for the reduction of corresponding sport fish: yellow perch and bait-fish on brook trout; smelt on lake trout and whitefish; rock bass on fish communities. The actual biological mechanisms involved are poorly understood but the overall effect on fish production and fishing opportunities are considered substantial. Introductions of the above competitor species are thought to be a result of unintentional dumping of live bait-fish by anglers and deliberate transfer of fish to new waters.

iii) Water Level Fluctuations

Approximately 66% of the lake area in the district is affected by dams designed to accommodate hydro-electric generation, navigation, and water level control (Figure 2). Suspected losses in fish production as a result of water level fluctuation occur in 19 lakes representing a surface area of 38,800 ha. Revisions to an agreement between the Ontario Ministry of Natural Resources and Ontario Hydro in 1969 to accommodate fishery concerns, is now considered of limited benefit to certain lake trout populations. Winter drawdown, for the purpose of hydro generation and flood control, is known to affect the hatching success of lake trout on certain district waters, (eg. Lake of Bays, Mary Lake). Spring and early summer fluctuations on river spawning areas for walleye may have contributed to the decline of certain walleye populations, (eg. Lake Muskoka).

It is obvious that the regulation of water levels will affect the various uses and create user conflicts. It is not so clear how to maximize overall water-related benefits and minimize or mitigate adverse conditons.

iv) Shoreline Development, Resulting in the Loss of Habitat Quality

Shoreline development has a potentially harmful impact on the environmental quality of the District's waters. Development contributes to the loss of

habitat quality through the removal of terrestrial and aquatic vegetation and rubble, and through dock, boathouse and beach construction. Nutrient leaching from septic systems accelerates eutrophication, resulting in a reduction of habitat available for coldwater species.

Traditionally, owners of shoreline property have been more concerned with aesthetics and property value than fisheries habitat. It is difficult to assess quantitatively the overall effect of shoreline development on habitat quality. Although these disturbances may appear of minimal consequence on an individual basis, collectively they have contributed to the deterioration of fish habitat. There is some optimism in the general recognition of a new environmental ethic and more stringent legislation to support it.

v) Contaminants

Contaminants, notably acid precipitation and mercury, may affect fish distribution and production and suitability for human consumption, respectively.

Non random testing of 252 lakes in the district classified 10 (2.5%) as being acidified and 137 (54%) as extremely sensitive to acidification. Over the long term, acid precipitation has significant potential to impact on the fisheries resource. While some of the harmful effects of acid precipitation have been identified, (eg. increased egg and fry mortality), all of the ramifications have not been determined.

The acidity of precipitation falling within the district (pH 4.0-4.2) and limited ability of waters to buffer the input because of bedrock geology are the contributing factors.

Fish sampled in Mary, Vernon, and Fairy Lakes in 1977 had extremely high mercury concentrations. All but the smallest specimens of lake trout were designated as unsuitable for human consumption. The source of the contamination is unknown at this time, but is likely of natural origin. The suitability of fish for human consumption within the Huntsville Basin will have to be considered in selecting management actions for these waters.

Past use of pesticides, especially DDT, on the Muskoka Lakes, is suspected of reducing the reproductive success of lake trout and walleye during the 1960's and 70's.

vi) Illegal Harvest

Illegal harvest of fish may have severe impacts on certain District fish stocks resulting in a loss of fishing opportunities. Illegal activities are thought to be concentrated during the fall spawning period for trout and at times of high angler success (eg. winter fishing, Lake Joseph). Other enforcement activities in the fall, primarily during the moose and deer hunt, result in relatively low coverage during a vulnerable period for spawning lake trout and brook trout. Illegal activities with respect to spring walleye spawning runs, are thought to be minimal as a result of past enforcement efforts.

vii) Restricted Access

Because of private land ownership, access is restricted on 382 lakes with a combined surface area of 4,800 ha and a corresponding annual potential yield of 17,500 kg. Nine percent are coldwater lakes, 14% are warmwater lakes, and 79% are of unknown status. Not included in the above are those stocked waters where access via Crown land is possible but difficult.

viii) Underlying Problems

Problems such as conflicting use, lack of scientific knowledge and fisheries data base, and level of public awareness are all considered underlying to the issues discussed earlier.

Resource user issues arising due to important water uses by a wide variety of interest groups are as follows:

1) Economic benefits of shoreline development versus water quality and maintenance of a fisheries resource.

2) Demands on the waters, in terms of flows and lake levels, include those for recreation, navigation, hydroelectric power generation, flood control, fisheries, and wildlife.

3) Commercial outpost camp operations vs. non-commercial use.

4) Perceived effects of other land use activities, (eg. forest management and agriculture on fisheries habitat).

Differences among anglers in terms of sport fishing preferences became apparent during public consultation, in particular winter vs. summer opportunities, non native vs. native trout populations, and high tech fishing gear.

The effective management of the fisheries resource is sometimes hampered by a lack of economic and scientific knowledge. There is also a need for additional inventory and assessment information on streams and rivers based on public response for management on these waters and those lakes over 1000 hectares in size. The District's present requirements for additional information includes evaluation of fish stocking programs, unsurveyed waters, documentation of sensitive fisheries sites (eg. spawning and nursery habitat) and establishment of a fisheries assessment unit on the Muskoka Lakes (Muskoka, Rosseau and Joseph).

Justifying fisheries management based on cost benefit analysis of specific actions, as well as the overall economic benefits of district fisheries, is expected to become more important in the future.

3.0 MANAGEMENT DIRECTION

3.1 GENERAL FISHERIES MANAGEMENT OBJECTIVES

The goal of the Ministry of Natural Resources is to provide opportunities for outdoor recreation and resource development for the continuous social and economic benefit of the people of Ontario and to administer, protect and conserve public lands and waters.

The objective for fisheries management in southern Ontario is to provide opportunities for recreation and economic benefits consistent with the maintenance of healthy fish communities.

3.2 SPECIFIC FISHERIES MANAGEMENT OBJECTIVES, TARGETS

Specific objectives and targets for sport, commercial and bait fishing, were developed from the general management objectives in the District Land Use Guidelines. In the formulation of this plan, targets were revised to better relate to the objectives and capabilities of the fisheries resource. District Land Use Objectives and Targets are presented in conjunction with revised targets and discussion. In addition to the specific objectives identified in the District Land Use Guidelines, the following management principles have been developed to provide further direction:

- indigenous fish communities and stocks will be protected;

- altered fish communities and degraded fish habitat will be rehabilitated;

- balanced fish communities based on natural reproduction will be developed and maintained;

- the District will develop a greater knowledge of fish communities including habitat and increase its scientific knowledge of fisheries resource base for more effective management;

- a greater public understanding of fisheries, their values, stress and management techniques, will be encouraged;

- public involvement in fisheries management will be encouraged;

- interagency co-operation in the management of the fisheries resource will be encouraged;

- non-consumptive use of the fisheries resource will be encouraged by providing viewing opportunities.

SPORT FISHING OBJECTIVE: to meet demand within the limits of a wisely managed and rehabilitated resource.

SPORT FISHING TARGET: to provide 297,100 angling opportunities based on an annual allowable harvest of 92,000 kg by the year 2000.

The revised sport fishing target can be further divided into warmwater and coldwater components.

COLDWATER SPORT FISHING TARGET: to provide 187,500 angling opportunities based on an annual allowable harvest of 37,500 kg by the year 2000.

WARMWATER SPORT FISHING TARGET: to provide 109,600 angling opportunities based on annual allowable harvest of 54,800 kg by the year 2000.

DISCUSSION:

Analysis of the fisheries resource data in the preparation of the plan illustrated the need to refine the sport fish target from the District Land Use Guidelines to reflect resource use and angler success. Although the estimate of annual allowable harvest of 92,000 kg has not changed from the

District Land Use Guidelines, the number of opportunities available from this resource has been reduced significantly. The reduction in targeted opportunities is considered to more accurately reflect current and projected use, and is in part a result of the use of quality standards in target development. This reduction in opportunities will be reflected in revisions to the District Land Use Guidelines.

Coldwater sport fish opportunities are based on the provincial catch standard of 0.2 kg per opportunity, which is less than the current harvest success of 0.3 kg per opportunity for lake trout. The coldwater sport fish target of 187,500 meets the anticipated demand of 187,000 opportunities by the year 2000.

It may be necessary to manage some waters for better than average success, in particular, those waters supporting significant tourist operations dependent on fishing.

Demand on the coldwater fishery can only be met if the present surplus of whitefish and herring is utilized, if angler success for trout averages 0.2 kg/opportunity and if all nonproducing and underproducing trout waters are brought into full production.

Based on an allowable harvest of 54,800 kg of preferred warmwater sport fish and an average harvest of 0.5 kg/opportunity the resource can only provide about one half of the anticipated demand for these species. The provincial catch standard of 0.5 kg/opportunity used to develop the warmwater sport fish target is considered higher than current estimates of angler success. It will be necessary to verify current use and yield information for warmwater sport fish in the District prior to implementing strategies to increase angler success for these species. The deficit in warmwater opportunities is related to a primarily coldwater resource base dependent on an introduced bass fishery, along with an elevated demand associated with summer cottaging and tourism.

Currently, additional angling opportunities exist for warmwater species such as yellow perch, rock bass and other panfish, which could significantly reduce the deficit in warmwater opportunities. Despite the relatively indifferent public response to the tactic of promoting angling for

alternative warmwater species, this may be necessary to meet overall demand. Creation of an alternate species angling target will be considered when further use and yield information becomes available.

Additional opportunities for warmwater sport fish will also be created with the introduction of largemouth bass and walleye into suitable waters, and rehabilitation of the Muskoka Lakes walleye populations.

BAIT FISHING OBJECTIVE: to maintain current production.

BAIT FISHING TARGET: to provide at a minimum, the present level of harvest of 22,000 dozen bait-fish to the year 2000.

DISCUSSION:

At present there is no commercial fishing industry other than bait-fish within the District.

The current lack of knowledge regarding bait-fish productivity and the interaction of bait-fish harvest on sport fish populations makes it difficult to provide concise management direction. Recognizing the importance of this industry is the first step in increasing current effort directed toward this resource.

PROVINCIALLY RARE AND ENDANGERED SPECIES OBJECTIVE: to prevent the extinction of any native species.

PROVINCIALLY RARE AND ENDANGERED SPECIES TARGET: to ensure no native species become extinct.

DISCUSSION:

Rare and endangered fish species include those species which have been indentified by the Committee on the Status of Endangered Wildlife in Canada (C.O.S.E.W.I.C.) and those afforded protection under the Endangered Species Act. Of those species of interest to C.O.S.E.W.I.C., only the grass pickerel (Esox americanus vermiculatus) has been recorded in the District. A single specimen was collected in Bass Lake in 1975, and verified by the

Royal Ontario Museum as a grass pickerel. Its presence is also known in Kahshe Lake (1987) and suspected in suitable connecting waters, such as Ben Lake.

3.3 GENERAL STRATEGIES AND TACTICS

General program strategies for Bracebridge District are identified in the District Land Use Guidelines. They are: maintain and manage existing fish populations; protect existing fish habitat and enhance where appopriate; and establish fish populations based on demand and habitat capability.

The fisheries management strategies presented below have been refined from these general strategies. Tactics are discrete actions which collectively contribute toward target achievement.

The following strategies and related tactics are described and discussed in relation to problems and specific targets.

SPORT FISHING

Problem: Over-harvest

Strategy:

1.0 Identify and control over-harvest of naturally reproducing trout, bass and walleye populations.

Tactics:

: conduct harvest and population assessment on selected waterbodies to evaluate exploitation and recommend effective harvest controls.

: apply regulatory controls including such measures as reduced seasons, reduced limits, gear and bait restrictions, sanctuaries, catch and release, size limits, or annual quotas, on selected waters. Specific regulatory measures will involve further public consultation.

: redirect effort by providing or promoting alternative coldwater species such as herring, whitefish, smelt and ling, and warmwater species such as yellow perch, panfish and bullheads.

: redirect effort by stocking trout in presently nonproducing and underproducing waters and introducing bass and walleye into currently nonproducing waters.

: encourage local interest groups to promote catch and release for bass on suitable lakes.

: determine warmwater fish population sizes, characteristics, and trends by index trap netting programs or creel census.

: proposals for new commercial out post camps will be considered where potential can be developed within the principles of this plan.

Priority for the identification and control of over-harvest will be on those waters capable of supporting self-sustaining naturally reproducing fisheries, and those waters supporting tourist operations dependent on above average angling success. Where required, regulatory mechanisms will be based on the following criteria: firstly, the method of control will ensure the necessary reduction in harvest to provide for ongoing maintenance of fish stocks and secondly, maximize opportunities available. Given this, control mechanisms will concentrate on those periods and methods providing the highest angler success.

Deviation from this may occur in the interest of economic benefits from tourism. The fisheries in the following waters have been identified as important to local tourism: Sand Lake (Proudfoot), Little Trout and Pine (Butt), Little Hungry (Bethune), Pete and Greg (Proudfoot). Future management will maintain current public access to these waters.

The following lake trout lakes are known to have good natural recruitment and therefore, will receive priority in regulating lake trout harvest: Kimball; Solitaire; Bear; Clear (Oakley); Clearwater; Buck; Slipper; Upper Raven; Sweny; Pevensey; Oliphant; McCann; McFadden; Oxtongue; South Wildcat; Lake Joseph and Kawagama. Kimball and Solitaire Lakes have already been closed to winter fishing and other regulations are being considered to reduce exploitation on the others.

The lack of information and costs associated with obtaining lake specific information on the small but numerous native brook trout waters, may necessitate broader and more general harvest controls. Winter closures on self-reproducing brook trout waters will be considered.

Based on the current estimates of supply and demand for the District no further allocation of the current production will be made to new commercial outpost camps.

As angling increases for whitefish and herring it may become necessary to restrict dip netting licences for these species.

It is important to realize that the control of over-harvest may result in reduced opportunities in the short term, but will provide a greater number of opportunities in the long term, through continued maintenance and rehabilitation of fish stocks.

Problem: Fish Introductions and Invasions.

Strategies:

2.0 Attempt to control future introductions of competitor species.

Tactics:

: increase public awareness regarding impacts of species introductions.

: enforce present regulations designed to control introductions, dumping of live bait-fish, inspections of bait-fish dealers, and illegal transfer.

: confirm native trout waters unaffected by fish introductions and invasions for the purpose of implementing live bait-fish restrictions.

: strictly control private aquaculture on Crown waters.

2.1 Minimize effect of competitor species on native sport fish populations where socially, economically and technically feasible.

Tactics:

: experimental management involving removal of introduced species on selected waters by intensive netting.

: lake reclamation using chemical pesticides, followed by live bait-fish restrictions.

: direct increased angler effort and usage of competitor species, eg. publish and distribute news articles and pamphlets on methods of taking and utilizing these species.

Regulations restricting use of live bait-fish will be instituted on waters where management efforts have been conducted to reduce or eliminate competitor species, and on trout waters with original fish communities unaffected by introductions.

Problem: Water Level Fluctuations.

Strategy:

3.0 Evaluate and negotiate agreements which will minimize the impact of water level fluctuations on sport fish populations.

Tactics:

: identify lake trout spawning areas, characteristics, and use on waters affected by artificial drawdown.

: evaluate the contribution of water level fluctuations to underproduction of lake trout on Mary, Lake of Bays, Muskoka, Rosseau, Joseph, Kawagama and Bernard Lakes.

: encourage intra and inter agency cooperation in water level control to:

- determine flexibility in the control of water levels to benefit natural lake trout and walleye recruitment on certain waters.
- evaluate specific minimum water level requirements.
- encourage the use of computer models to minimize unnecessary drawdown.

: force fish to spawn on areas below critical minimum water levels by constructing barriers, reconstructing spawning beds, reducing water levels in advance of spawning, or creating new limestone spawning areas at depths unaffected by drawdown.

3.1 Maintain lake trout populations artificially through stocking of hatchery fish on selected waters with severe drawdown.

Tactics:

: use existing hatchery production.

: utilize cage culture on the lake to be stocked.

This strategy will be required as an interim measure on certain lakes while

drawdown impacts are determined and agreements are being negotiated, (eg. several of the larger lake trout lakes in the Muskoka watershed).

Problem: Shoreline Development Resulting in the Loss or Alteration of Fish Habitat.

Strategies:

4.0 Protect existing fisheries habitat, with no net loss of essential areas.

Tactics:

: continue to review external and internal plans and applications involving work that may affect fish habitat.

: increase public awareness of shoreline development impacts.

: monitor late summer water chemistry on selected waters so that negative impacts may be detected early.

: encourage development of reliable models to predict impact of proposed shoreline development.

: ensure effective use of present legislation and modified forest management areas.

: encourage evaluation of existing policy (MOE, MNR and District Municipalities) in regard to effectively maintaining water quality suitable to lake trout production.

: provide information, support and cooperation to other agencies on the protection of fisheries habitat.

: identify and document critical habitat or sensitive sites, eg. spawning and nursery areas.

: collect necessary resource information in response to plans submitted.

: develop and utilize guidelines for coldwater stream crossings.

: discourage instream dams on coldwater streams.

4.1 Rehabilitation of degraded habitat affecting sport fish production.

Tactics:

: initiate rehabilitation projects, spawning bed enhancement and erosion control by MNR.

: encourage local interest groups to get involved in rehabilitation projects under C.F.I.P.

4.2 Develop new habitat.

Tactics:

: Development of new habitat (eg. spawning areas and shelter) may be employed by proponents as compensatory action where protection or rehabilitation is not appropriate or feasible.

: Initiate and promote fish habitat creation projects where necessary.

The above strategies provide for an overall net gain of the productive capacity of fish habitats by protection, rehabilitation and development. A strategy of "no net loss" of essential fish habitat provides a method of compromise in certain resource use conflicts. Where the loss or alteration of fish habitat can be justified, it will be the proponent's responsibility to replace through rehabilitation or creation of new habitat to a level comparable to the loss or alteration, where feasible.

Problem: Contaminants (acid precipitation and mercury).

Strategies:

5.0 Encourage assessment of contaminants on District waters and advise public of results.

Tactic:

: Encourage monitoring and research of District fish populations and habitat by government agencies and universities.

5.1 Manage and utilize production from contaminated waterbodies.

Tactic:

: encourage catch-and-release fishing on heavily contaminated waters, and for "no-consumption" size ranges, eg. lake trout in the Huntsville Lakes.

Problem: Illegal Harvest.

Strategy:

6.0 Control illegal harvest.

Tactics:

: increase effectiveness of fisheries enforcement through preparation of a District fisheries enforcement plan.

: increase enforcement effort at the time of fall fish spawning by

redirecting some District Conservation Officer time, and obtaining out of District C.O. assistance, and using Deputy C.O. manpower.

: increase public awareness regarding illegal harvest during spawning period and encourage violation reporting (through media, school presentations, displays).

: concentrate enforcement effort during periods and in areas of good angling success (eg. early winter, spring, fall).

: enlist co-operation of other enforcement agencies such as OPP, as required.

Problem: Restricted Access.

Strategy:

7.0 Maintain and or increase public access, where additional opportunities are available.

Tactics:

: plan review to ensure existing access is protected.

: consider land exchanges to benefit access to fishing opportunities.

: enter into agreements with private landowners to secure public access.

: inform the public of access to stocked waters through media and information pamphlets.

: where additional access can be created to increase available opportunities provisions must be made for access maintenance.

Strategy:

7.1 Create additional opportunities near urban areas with good access.

Tactics:

: conduct lake and stream surveys to determine potential of waters near urban areas.

: employ species introductions in waters identified above.

: establish put and delayed take fisheries in waters identified above.

Problem: Inadequate Resource Information and Scientific Knowledge.

Strategies:

8.0 Increase information base to allow for effective management.

Tactics:

: verification of current resource use and yield estimates used in the development of this plan.

: establish a fisheries assessment unit to assess major District waters - Muskoka, Rosseau, and Joseph Lakes and use this data to manage these and similar fish communities.

: establish Magnetewan fisheries assessment unit, to manage these waters and similar fish communities.

: determine recruitment success of preferred sport fish on selected waters, in relation to water level fluctuation, competitor species and acidification.

: seek information from public regarding characteristics of fish populations and location of critical habitat, eg. spawning areas.

: conduct lake and stream surveys, for specific purposes.

: assess native brook trout populations and habitat.

: conduct research on the impact and control of introduced species, and determination of bait-fish and nonpreferred sport fish yields.

: identify and document critical fish habitat.

: monitor fish populations on major warmwater fisheries, eg. index netting.

: conduct assessment of stocked fish.

: encourage research on invertebrae populations, w.r.t. forage production for preferred sport fish and effects of contaminants such as acid precipitation.

8.1 Employ experimental management approach.

Tactics:

: study removal of competitor species on selected waters.

: experimental stocking including new species (brown trout), or strains.

: brook trout stocking in the presence of lake trout, and/or smallmouth bass.

: brook trout stocking in streams and rivers based on stream and population characteristics, access and demand.

: initiate and assess harvest controls on selected waters, eg. winter closures - Solitaire, Kimball Lakes - lake trout and splake.

It may not always be possible to collect detailed information prior to making management decisions. Some decisions will be made on current information to prevent a substantial loss of fish or opportunities.

Stream and river stocking, plus brook trout stocking in the presence of lake trout and/or smallmouth bass has been included within experimental management, given public response to earlier plans. Stocking conducted as experimental management must be assessed, necessitating that all fish be marked.

Problem: Increase contribution of stocked fish to meet demand.

Strategy:

9.0 Increase effectiveness of present stocking program.

Tactics:

: employ a no-stocking policy for lakes having strong naturally reproducing populations, limited only by over-harvest.

: reduce coarse fish competition with stocked fish by methods outlined, eg. lake reclamation.

: evaluate stocking success and returns to angler to eliminate or modify ineffective stocking.

: monitor stocked waters (once every five years) to ensure adequate habitat is available.

: withold public notification of introductory stockings until such time as the population is established or of suitable size.

: public access must be available on all waters stocked by MNR.

: provide put-and-immediate-take stocking in suitable lakes with good access, close to larger population centres.

: improve quality of stocked fish specific to the purpose of stocking and community structure of water to be stocked, eg. larger brook trout and lake trout in waters with strong competition.

: maintain a five year stocking list.

: advertise locations of stocked waters through media articles, District stocking lists, pamphlets and signage at lakes.

: review CFIP culture applications on a case by case basis and allow projects consistent with the principles within this plan and where good education benefits may result.

9.1 Stocking new waters where environmental and access conditions are suitable.

Tactics:

: stock splake and rainbow trout in suitable non-producing coldwater lakes. (Rainbow trout and splake will not be stocked where viable self-reproducing brook and lake trout populations exist).

: use lake reclamation and artificial mixing (destratification) to provide additional waters for stocking.

: continue lake inventory program to identify new waters for stocking.

: use walleye and bass introductions for the purpose of establishing self-sustaining populations.

: review CFIP introduction applications on a case by case basis and allow projects consistent with the principles within this plan and where good education benefits may result.

Stocking trout to supplement native populations limited only by over-harvest is not viewed as a desirable management technique for the following: 1) stocking often attracts additional effort to the lake resulting in further exploitation of native stocks. Competition from stocked fish results in further stress on the remaining native fish. The best answer to an over-harvest problem is usually harvest control, rather than fish stocking.

Minimum access acceptable for stocking purposes is the right or privilege of the general public to reach a body of water on foot without trespass.

Problem: Lack of Public Awareness and User Conflicts.

Strategy:

10.0 Provide public awareness of the importance of the fisheries resource, threats to it, and principles of wise management.

Tactics:

: improve communications and education by regular news releases on District activities, pamphlets, displays, presentations to interest groups and schools.

: increase viewing opportunities and interpretive displays, including a stream enhancement demonstration area.

: encourage public involvement in fisheries management activities, including rehabilitation (C.F.I.P.), planning and regulatory changes (advisory groups).

10.1 Minimize user conflicts through inter agency cooperation, resource planning and improved communications with user groups.

Tactic:

: establish a District fishery advisory group to be involved in resource planning, regulatory changes and providing feedback to groups represented.

Problem: Maintenance of Bait-Fishing Resource and Commercial Use.

Strategy:

11.0 Maintain existing bait-fish populations to the benefit of the industry and sport fish populations.

Tactics:

: encourage development of bait-fish yield estimates, and research directed at sport fish production in relation to bait-fish harvest.

: consider a bait-fish block management system for the District.

: encourage bait-fish production and harvest in waters unsuitable for sport fish.

: increase awareness of and actively enforce bait-fish regulations, legal bait species and harvest and sale records.

: where necessary, control harvest to prevent over exploitation of bait-fish populations and encourage sport fish production.

Problem: Provincially Rare and Endangered Species Protection.

Strategy:

12.0 Maintain existing population of the grass pickerel.

Tactics:

: delineate the current range, abundance and habitat requirements of the grass pickerel within the District.

: protect habitat of the grass pickerel, through public awareness and enforcement of existing legislation.

: create public awareness of the existence and identification of the species through media releases, pamphlets and displays. Posters should be placed at lodges and sporting good outlets in the vicinity of lakes supporting the species.

3.4 SPECIAL FISHERIES MANAGEMENT ZONES

The District Land Use Guidelines identified an isolated area in Joly and Paxton Townships as a special fisheries management area. The intent as identified in the District Land Use Guidelines was to ensure that the area remained relatively inaccessibile with a high level of water quality.

Zone Description

The location of the zone is illustrated in Figure 3, and includes the following lakes: Mud, Trout, Stoney, Carmichael, Little Peyton (Camp), Beaver, Peyton (Cedar), Rocky, Crystal, Wolf and Island, plus three small unnamed lakes. The boundary line enclosing the area maintains a minimum distance of 500 meters from the lakes identified above.

Partial lake survey information exists for all of the waterbodies within the zone. Nine of the lakes are known to contain self reproducing native brook trout populations unaltered by fish stocking except for Crystal Lake.

Portions of the zone have been identified for timber harvesting in the Timber Management Plan.

Purpose of the Special Fisheries Management Zone

The management objective for the zone is to ensure the perpetuation of the original stocks for provision of native stocks for breeding purposes and experimental management. In conjunction with this it is also intended to maintain a quality brook trout fishery with higher than average catch standards.

The objective for this zone can be met by addressing the following issues: fish introductions, both bait-fish and trout; controlling harvest levels (by regulatory controls and by restricting road access), and ensuring environmental conditions in the lakes remain suitable.

The following management strategies were identified in the District Land Use Guidelines for the management zone: construction of access roads will be limited to winter haul roads; winter haul roads will be closed and rehabilitated after use to ensure continued restricted access; modified management areas will be strictly applied to all streams and water bodies and no further disposition of crown rights will occur except where related to mineral exploration. These management strategies are currently being examined in relation to the objective for this zone.

Special Fisheries Management Zone Strategies and Tactics

Strategy: Ensure the preservation of endemic fish populations.

Tactics:

: no stocking of hatchery fish (wild stock for reintroduction purposes only).

: update lake surveys on all lakes within the zone.

: collect historical stocking information.

: provide samples for genetic research on brook trout.

: restrict use of live bait-fish on those waters currently unaltered by fish introductions or invasions (to be determined by lake surveys).

: regulate harvest within limits of the allowable harvest, restrict or close winter fishing.

: rehabilitate degraded spawning habitat, eg. remove Stoney Lake crossing and rehabilitate spawning area.

: road access into this zone will be minimized and will be permitted only where necessary to provide access for timber management activities. This will be at the discretion of the District Manager.

: 200 meter area of concern around all permanent water. Generally roads and landings will not be permitted in these areas.

Strategy: Maintenance of quality brook trout fishery with higher than average catch standards.

Tactics:

: special regulatory harvest controls as required, eg. catch and release, fly fishing; trophy fishing to include reduced creel limits, minimum size, and barbless hooks; winter and or spring closures.

4.0 IMPLEMENTATION

4.1 GENERAL

This plan provides the direction for fisheries management activities within Bracebridge District to the year 2000. All management activities will contribute toward the attainment of the objectives and targets and consistent with strategies and tactics identified. Larger and more significant lakes may eventually be considered for individual management plans. Annual work plans will be based on the tactics and priorities established in this plan. Strategies and tactics will be implemented through the following process:

- preparation of five year implementation schedule starting with 1987 - 1992.
- annual work planning process.
- cooperative efforts with other government agencies, including Ontario Hydro, Ministry of the Environment and Municipalities, and the public (C.F.I.P.).
- review of external and internal plans.

4.1.1 CHANGES TO THE PLAN

This plan will be reviewed at 5 year intervals or whenever major changes are necessary. Significant alterations and review phases will follow the same approval process as the original document, including public review and approval of the District Manager and Regional Director. Minor changes to the tactics or locations of implementation may occur in response to additional resource or technical information. These changes will follow Ministry procedures for ammendments to the District Land Use Guidelines, as directd by the District Manager.

Implementation of the Fisheries Management Plan is subject to the requirements of the Environmental Assessment Act. Compliance with the requirements of the Act may result in changes to tactics identified in this plan.

4.2 IMPLEMENTATION SCHEDULE

The specific tactics that will be implemented over the first five years of this plan (1987 - 1992) are listed in the implementation schedule, Table II, and illustrated in Figure 4. The specific work locations are identified for each tactic.

Scheduling of specific projects on an annual basis has been completed where the sequence of management is important. Tactics are identified according to priority. Priority 1 represents work which can be accomplished with present levels of funding and staffing. Work activities which will require additional funds and staff are listed as priority two.

Routine work planning, site inspections and administrative functions have not been included. Similarly, enforcement activities are not detailed. Strategies and tactics such as enforcing existing legislation, encouraging public participation, increasing public awareness and plan review are carried out on an ongoing basis.

4.3 SUMMARY OF MANAGEMENT EMPHASIS

Tactics selected for the first five year implementation schedule (1987-1992) incorporate a combination of protection, and rehabilitation of fish habitat and populations.

The major emphasis of fisheries management in Bracebridge District will focus on the maintenance of native self-reproducing trout populations and rehabilitation of sport fish populations on the larger waterbodies representing the greatest deficit of underproduction. To accomplish this, selected projects will emphasize:

i) identification of native trout populations and essential habitat in conjunction with harvest assessment, and necessary protection measures.

ii) quantification of limiting factors on larger lakes and appropriate rehabilitative efforts directed at populations and habitat.

The protection of existing native trout populations and rehabilitation of historically important fish populations such as the Muskoka Lakes walleye, and Lake of Bays lake trout and whitefish, can provide the largest returns in angling opportunities and tourism.

Plan review, public awareness and cooperative involvement will be important processes in implementing habitat protection and rehabilitation. Population management will be accomplished primarily through harvest assessment and appropriate control along with rehabilitative stocking.

Enforcement priorities as directed by the identified problems, strategies and targets, will necessitate both preventative and regulatory measures.

Preventative measures should concentrate on public awareness and education in regard to the impact of species introductions, shoreline development impacts, catch and release fishing, and encouragement of violation reporting.

Regulatory priorities are as follows, illegal harvest of native brook trout and lake trout populations from lakes identified in Appendix 2.1, 2.2 and 3.1, illegal fish transfer, illegal bait-fish species, habitat protection including monitoring of approvals, and illegal activities during the fall spawning period for brook trout and lake trout.

TABLE II. FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE, 1987-1991 BRACEBRIDGE DISTRICT

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
Strategy 1.0:	Identify and control overharvest of naturally reproducing trout, bass and walleye populations.					
TACTIC 1.0.1	Conduct harvest and population assessment on selected waterbodies to evaluate exploitation and recommend effective harvest controls.	Summer creel census (trout & bass).	Muskoka (Muskoka) Rosseau (Medora) Joseph (Medora) Lake of Bays (Franklin)		X	
		Winter creel census (tróut).	Joseph (Medora) Kawagama (Sherborne) Bear (Sherborne) Lake of Bays (Franklin)		X	Overharvest.
		Determine % of stocked vs. natural lake trout in angler harvest.	Skeleton (Watt) Bernard (Strong) Mary (Stephenson) Lake of Bays (Franklin) Muskoka (Muskoka) Rosseau (Medora)		X	
		Aerial survey to determine winter effort on remote brook trout waters.	Townships adjoining Algonquin Park.		X	
		Encourage voluntary creels on small developed lakes to determine angler success.	Lakes with perceived problems and active lake associations.	X		

*NOTE: Priority 1 - Activities which can be undertaken with present level of funding.
Priority 2 - Actiities which require additional funding.

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
			Leonard, Brandy (Monck) Muldrew, Gull (Muskoka) Bray (Machar) Nulty, Jack (Armour) Arrowhead (Chaffey) Camel (Watt) Dickie, Echo (McLean)			
TACTIC 1.0.2	Apply regulatory controls including such measures as reduced seasons, reduced limits, gear and bait restrictions, sanctuaries, catch and release, size limits or annual quotas, on selected waters. (Dependent on results of Tactic 1.0.1).	Candidate lake trout lakes - reduced seasons.	Joseph (Medora) Kawagama, Bear (Sherborne) Slipper (Havelock) Oliphant, McCann, Upper Raven (Proudfoot) Buck (Sinclair) Camp (Finlayson)		X	Overharvest. Inadequate resource info.
		Candidate brook trout lakes - reduced seasons.	Native self-reproducing brook trout lakes. Appendix 2.1, 2.2. Crown (Livingstone) Nelson (Finlayson), Fisher (McClintock), Nabdoc (Butt) Royal, Mud, Stoney, Trout, Carmichael (Paxton) Peyton (Joly)		X	
		Sanctuary (walleye spawning).	South Muskoka Falls (Muskoka)			
TACTIC 1.0.3	Redirect effort by providing or promoting alternative coldwater species such as herring, whitefish, smelt and ling, and warmwater species such as yellow perch, panfish and bullheads, through news-releases, seminars, etc.		District wide.	X		Overharvest.

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 1.0.4	Redirect effort by stocking trout in presently nonproducing and underproducing waters and introducing bass and walleye into currently nonproducing waters.	Candidate rainbow trout waters.	Fetterley (Proudfoot)		X	Overharvest.
			Crosson (Oakley)			
			Foote, Ink (Bethune)			Nonproducing waters.
			Hamilton (Machar)			
			High (Watt)			
			Leonard (Monck)			
			Little Flower, Waseosa (Chaffey)			
			Lynch (Joly)			
			Long, Torrance (Wood)			
			Loxton, Shaw (Ballantyne)			
			Odiekirk (Butt)			
			Shoe (Ridout)			
			Smyth, Wendigo (Laurier)			
			Sunken (Sherborne)			
			Walker (Sinclair)			
			Lamb (Laurier)			
			Lower Fletcher (McClintock)			
			Hoc Roc River (Muskoka)			
			Other waters as identified.			
		Candidate splake waters.	Black, Grandview, Longline (Ridout)			
			Dewfish			
			Middle Shanty (Butt)			
			Harvey, Flaherty (McClintock)			
			South Tasso (Finlayson)			
			Corkery (Ballantyne)			
			Dump, Willie (Bethune)			
			Little Clear (Sinclair)			
			Schamerhorn (Perry)			
			Little Tyne, Corkery, Lynch, Tyne (Ballantyne)			
			Widgeon (Joly), Middle Shanty (Butt), Paint Lake (Ridout), Hardy Lake(Wood),			
			Other waters as identified.			

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
		Candidate brook trout waters	Crystal, Rocky, Island (Paxton), Pine (Butt) West Ermine 404 (Finlayson) Wolf, Bluesky (Joly) Simpson (McCraney), Coffee (McCraney)			
		Candidate lake trout waters	Cardwell (Cardwell) Fox (Bethune)			
		Candidate largemouth bass waters.	Pioneer Village Pond (Chaffey) Barnes, Weirs Pond (Cardwell) Other waters as identified.			
		Candidate walleye waters.	Prospect (Draper) North Muskoka River (Macaulay) Other waters as identified.			
TACTIC 1.0.5	Encourage local interest groups to promote catch and release for bass on suitable lakes.		District wide.	X		Overharvest.
TACTIC 1.0.6	Determine warmwater fish population, characteristics and trends by index trap netting programs or creel census.	(4 lakes/year)	Nulty, Pickerel, Three Mile (Armour) Three Mile (Watt) Kahshe (Morrison) Dickie, Echo, Moot (McLean) Ril (Ridout) Muldrew (Muskoka) Wood (Oakley) Eagle, Bray (Machar) Medora, Bass (Medora)		X	Overharvest Inadequate resource info.

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
			Clearwater (Stephenson) Healey (Macaulay) McKay (Draper) Riley (Ryde) Waseosa (Chaffey) Muskoka (Muskoka) Rosseau (Medora) Joseph (Medora) Hardy (Wood)			
STRATEGY 2.0:	Attempt to control future introductions of competitor species.					
TACTIC 2.0.1	Increase public awareness regarding impacts of species introductions.		District wide. Newsreleases, pamphlets.		X	Fish invasions.
TACTIC 2.0.2	Enforce present regulations designed to control introductions, dumping of live bait-fish, inspections of bait-fish dealers, and illegal transfer.		District wide.	X		Fish introduction.
TACTIC 2.0.3	Confirm native trout waters unaffected by fish introductions and invasions for the purpose of implementing live bait-fish restrictions.	Brook trout	Appendix 2.1, 2.2	X		Fish introductions.
		Lake trout	Appendix 3.1, 3.2			
TACTIC 2.0.4	Strictly control private aquaculture on Crown waters.		District wide.	X		Fish introductions.
STRATEGY 2.1:	Minimize effect of competitor species on native sport fish populations where socially, economically and technically feasible.					

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 2.1.1	Experimental management involving removal of introduced species on selected waters by intensive netting.	Smelt	Bella (Sinclair)		X	Inadequate resource info.
TACTIC 2.1.2	Lake reclamation using chemical piscicides, followed by live bait-fish restrictions.	Candidate lakes.	Blue Jay, Insula (Ridout) South Branch, Pine, Mining Corporation (Butt) Greenwood (McClintock) Little Hungry, Twenty-Eight (Bethune) No. 368 (Perry) Laural, West Twin (Joly) Seven, Timpano, Denis (Laurier) Centre Nolan (Finlayson) Jackson (Draper)		X	Fish introductions and invasions. Overharvest. Ineffective stocking program.
TACTIC 2.1.3	Stocking of native species to correct fish community imbalances.		Rosseau (Medora) Lake of Bays (Franklin) Muskoka (Muskoka) Mary (Stephenson) Sand (Proudfoot) Rebecca, Bella (Sinclair) Bernard (Strong)		X	Fish introductions and invasions.
TACTIC 2.1.4	Direct increased angler effort and usage of competitor species, eg. publish and distribute news articles and pamphlets on methods of taking and utilizing these species		District wide.		X	Imbalanced fish communities.

STRATEGY/TACTIC		LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
STRATEGY 3.0:	Evaluate and negotiate agreements which will minimize the effects of water level fluctuations on sport fish populations.				
TACTIC 3.0.1	Identify lake trout spawning areas, characteristics and use on waters affected by artificial drawdown.	Bernard (Strong) Lake of Bays (Franklin) Muskoka (Muskoka) Rosseau (Medora) Mary (Stephenson)	X		Water level fluctuations. Inadequate resource info.
TACTIC 3.0.2	Evaluate the contribution of water fluctuations to underproduction of lake trout.	Mary (Stephenson) Lake of Bays (Franklin) Muskoka (Muskoka) Rosseau (Medora) Bernard (Strong) Kawagama (Sherborne)		X	Water level fluctuations. Inadequate resource info.
TACTIC 3.0.3	Encourage intra and inter agency cooperation in water level control to determine flexibility, minimum water level requirements, and application of computer modelling.	Mary (Stephenson) Lake of Bays (Franklin) Muskoka (Muskoka) Rosseau (Medora) Bernard (Strong) Kawagama (Sherborne)	X		Water level fluctuations. Inadequate resource info.
TACTIC 3.0.4	Force fish to spawn on areas below critical minimum water levels by constructing barriers, reconstructing spawning beds, reducing water levels in advance of spawning or creating new limestone spawning areas at depths unaffected by drawdown.	South & North Muskoka River (Muskoka) Lake of Bays (Franklin) Mary (Stephenson) Bernard (Strong) Muskoka (Muskoka) Rosseau (Medora)		X	Water level fluctuation.

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
			Other areas as identified.			
STRATEGY 3.1:	Maintain lake trout populations artificially through stocking of hatchery fish on selected waters with severe drawdown.					
TACTIC 3.1.1	Use existing hatchery production.		Mary (Stephenson) Muskoka (Muskoka) Bernard (Strong) Lake of Bays (Franklin) Rosseau (Medora)	X		Water level fluctuations. Underproducing waters.
TACTIC 3.1.2	Utilize cage culture on the lake to be stocked.	Candidate lakes.	Lake of Bays (native stocks) (Franklin) Muskoka (Monck) Rosseau (Medora)		X	Water level fluctuations. Underproducing waters.
STRATEGY 4.0:	Protect existing fisheries habitat, with no net loss of essential areas.					
TACTIC 4.0.1	Continue to review external and internal plans and applications involving work that may affect fish habitat.		District wide.	X		Loss or alteration of fish habitat access.

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 4.0.2	Increase public awareness of shoreline development impacts.		District wide. Distribution by newsreleases, pamphlets.	X		Inadequate resource info. Shoreline development.
TACTIC 4.0.3	Monitor late summer water chemistry on selected waters so that negative impacts may be detected early.	5 lakes per year.	Island, Grass, North, Pevensey (Proudfoot) Fifteen Mile (Franklin) Solitaire, Bella, Rebecca, (Sinclair) Oxtongue, Fletcher, McFadden, Clinto, Lower Fletcher (McClintock) Bay (Perry) Slipper (Havelock) Harp (Chaffey) Blue Chalk (Ridout) Clearwater (Morrison) Emsdale (Bethune) Dotty, Oxbow, Tasso, Camp (Finlayson) Bigwind, Clear (Oakley) Livingstone, Bear, Kimball (Livingstone)	X		Loss or alteration of habitat.
TACTIC 4.0.4	Encourage development of reliable models to predict impact of proposed shoreline development.		District wide - coldwater lakes.		X	Loss or alteration of habitat.
TACTIC 4.0.5	Ensure effective use of present legislation and forest management "areas of concern" guidelines.		District wide.	X		Loss or alteration of habitat.

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 4.0.6	Encourage evaluation of existing policy (MOE, MNR and District Municipalities) in regard to effectively maintaining water quality suitable to lake trout production.		See Appendix 2.1, 2.2	X		Loss or alteration of habitat.
TACTIC 4.0.7	Provide information, support and cooperation to other agencies on the protection of fisheries habitat.		District wide.	X		Loss or alteration of habitat.
TACTIC 4.0.8	Identify and document critical habitat or sensitive sites, eg. spawning and nursery areas.	3 lakes per year.	Kahshe (Morrison) Muskoka, Muldrew (Muskoka) Three Mile, Skeleton (Watt) Rosseau, Joseph (Medora) Mary (Stephenson) Lake of Bays, Penninsula (Franklin) Kawagama (Sherborne) Sand (Proudfoot) Bernard (Strong) Oxtongue (McClintock) Pickerel (Armour) Eagle (Machar) Wood (Oakley) Bella (Sinclair)		X	Loss or alteration of habitat.
TACTIC 4.0.9	Collect necessary resource information in response to plans submitted.		District wide.		X	Loss or alteratio of habitat.

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 4.0.10	Develop and utilize guidelines for coldwater stream crossings and barriers.		District wide.	X		Loss or alteration of habitat.
STRATEGY 4.1:	Rehabilitation of degraded habitat affecting sport fish production.					
TACTIC 4.1.1	Initiate rehabilitation projects, spawning bed enhancement and erosion control by M.N.R., including Junior Rangers.	Candidate waters.	Rosseau Falls (Cardwell) Port Carling locks (Medora) S.Muskoka Falls, Hoc Roc River, Sharpes Creek (Muskoka) Kahshe Lake (Morrison/ Ryde), Bernard Lake (Strong) Fletcher (McClintock) Joly Creek (Joly) Skeleton Lake, Bennets Creek, Clarks Pond (Watt) Skeleton River, Dee River Other waters as identified.	X		Loss or alteration of habitat.
TACTIC 4.1.2	Encourage local interest groups to get involved in rehabilitation projects under C.F.I.P.		District wide.	X		Loss or alteration of habitat.
STRATEGY 4.2:	Develop new habitat.					
TACTIC 4.2.1	Development of new habitat, eg. spawning areas and shelter, may be employed by proponents as compensatory action, where protection or rehabilitation is not appropriate or feasible.		District wide, where development may result in alteration.	X		Loss or alteration of habitat.

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
STRATEGY 5.0:	Encourage assessment of contaminants on District waters and advise public of results.	Mercury	District wide; priority Huntsville.	X		
TACTIC 5.0.1	Encourage monitoring and research of District fish populations and habitat by government agencies and research and educational institutions.	Acidification	Crystal, Rocky (Paxton) District wide.	X		Contaminants.
STRATEGY 5.1:	Manage and utilize production from contaminated waterbodies.					
TACTIC 5.1.1	Encourage catch and release fishing on heavily contaminated waters for "no-consumption" size ranges (lake trout).		Mary (Stephenson) Vernon (Chaffey) Fairy (Brunel) Fox, Buck River (Stisted)	X		Contaminants.
STRATEGY 6.0:	Control illegal harvest.					
TACTIC 6.0.1	Increase effectiveness of fisheries enforcement through preparation of a District fisheries enforcement plan.		District wide.	X		Illegal harvest.
TACTIC 6.0.2	Increase effort at the time of fall fish spawning by redirecting some District Conservation Officer (C.O.) time and obtaining out of District C.O. assistance and using Deputy C.O.		Native brook trout and lake trout populations.		X	Illegal harvest.

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 6.0.3	Increase public awareness regarding illegal harvest during spawning period and encourage violation reporting through media, presentations and displays.		District wide.	X		Illegal harvest.
TACTIC 6.0.4	Concentrate effort during periods (spring, fall and early winter) and in areas of good angling success.		District wide.		X	Illegal harvest.
STRATEGY 7.0:	Maintain and or increase public access, where additional opportunities are available.					
TACTIC 7.0.1	Plan review to ensure existing access is protected.		District wide.	X		Loss or alteration of fish habitat. Access. Inadequate resource info.
TACTIC 7.0.2	Consider land exchanges to benefit access to fishing opportunities.		District wide.		X	Restricted access.
TACTIC 7.0.3	Enter into agreements with private landowners to secure public access (when opportunities arise)	Candidates.	District wide. Waseosa (Chaffey) Young (Watt) Torrance (Wood) North (Proudfoot) Martencamp (Finlayson) Big East River (Sinclair)		X	Restricted access.

STRATEGY/TACTIC		LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 7.0.4	Inform the pubic of access to stocked waters through media and information pamphlets.	District wide.		X	Restricted access.
TACTIC 7.0.5	Where additional access can be created to increase available opportunities, provisions must be made for access maintenance.	District wide.		X	Restricted access.
STRATEGY 7.1:	Create additional opportunities near urban areas with good access.	North & South Muskoka River, Town Creek, Huntsville Locks, Pioneer Village Pond, Vernon, Hoc Roc River, Gull Lake			
STRATEGY 8.0:	Increase information base to allow for effective management.				
TACTIC 8.0.1	Verification of current resource use and yield estimates used in the development of this plan.	1990 Provincial Angler Survey.		X	Inadequate resource info.
TACTIC 8.0.2	Establish a fisheries assessment unit to asssess important District waters, Muskoka Lakes.	Muskoka (Monck) Rosseau (Medora) Joseph (Medora)		X	Inadequate resource info. & scientific knowledge. Overharvest. Fish introductions. Shoreline development.
	Establish Magnetewan Fisheries Assessment Unit	Clearwater (Morrison) Camp (Finlayson), Widgeon (Joly), Fletcher, Cod (McClintock), Loon, Heck (Sinclair)			

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 8.0.3	Determine recruitment success of preferred sport fish on selected waters in relation to water level fluctuation, competitor species and acidification.	Candidate lake trout waters.	Lake of Bays (Franklin) Muskoka (Monck) Rosseau (Medora)	X		Inadequate resource info.
		Candidate brook trout waters.	Fletcher (McClintock) Windfall (McCraney) Lakes within management zone 1.		X	
		Candidate smallmouth bass waters.	Eagle (Machar) Nulty (Armour) Waseosa (Chaffey)		X	
		Candidate walleye waters.	Muskoka (Monck) Rosseau (Medora) Wood (Oakley)		X	
TACTIC 8.0.4	Seek information from public regarding characteristics of fish populations and location of critical habitat, eg. spawning areas.		District wide.	X		Inadequate resource info.
TACTIC 8.0.5	Conduct lake and stream surveys for specific purposes, eg. stocking proposals and work applications involving fish habitat.	Lakes	See Tactic 9.1.3		X	" "
		Rivers	Muskoka, Magnetewan, East, Skeleton, Black		X	
		Streams	Beaver Cr. (Monck) Hoc Roc (Muskoka) Ragged (Perry) Others as identified.			
TACTIC 8.0.6	Assess native brook trout communities and habitat.	Candidates from Appendix 2.1, 2.2			X	" "

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED	
TACTIC 8.0.7	Encourage research on the impact and control of introduced species and the determination of bait-fish and nonpreferred sport fish yields.	MNR research.	District wide.		X	"	"
	Identify and document critical fish habitat.		See Tactic 4.0.8				
	Monitor fish populations on major warmwater fisheries, eg. index trapnetting.		See Tactic 1.0.6				
	Conduct assessment of stocked fish.		Appendix 4				
STRATEGY 8.1:	Employ experimental management approach.						
TACTIC 8.1.1	Study removal of competitive species on selected waters.	Creek chub, white sucker.	Split Rock (Sinclair)			Inadequate resource info.	
TACTIC 8.1.2	Experimental stocking, including new species (brown or strains, streams and rivers and brook trout in the presence of lake trout, small mouth bass or yellow perch.		Candidate Brook Trout: - Hoc Roc River (Muskoka) - Beaver Creek (Monck) - North Muskoka (Stephenson) Candidate Rivers & Streams Brook Trout - Big East River (Sinclair) - Ragged Creek (Perry) - Black River (Oakley) - Skeleton River (Watt)			Inadequate resource info.	

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
		Brook Trout in Presence of Smallmouth Bass	- Heck Lake (Sinclair) - Forest Lake (Machar)			
		of Lake Trout	- Tasso (Finlayson) - Bigwind (Oakley)			
		of Yellow Perch	- Others as identified, dependent on demand and ability to assess.			
TACTIC 8.1.3	Initiate and assess harvest controls on selected waters.		Solitaire (Sinclair) Kimball (Livingstone) Lake Joseph (Medora) Management zone 1. Other waters as identified.			Inadequate resource info.
STRATEGY 9.0:	Increase contribution of stocked fish to meet demand.					
TACTIC 9.0.1	Employ a no-stocking policy for lakes having strong naturally reproducing populations, limited only by over-harvest.	Lake trout	Appendix 3.1	X		Ineffective stocking program.
		Brook trout	Mud, Trout, Stoney, Carmichael (Paxton) Crown (Livingstone) Peyton (Joly) Other waters as identified.			

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 9.0.2	Reduce coarse fish competition with stocked fish by methods outlined, eg. lake reclamation.		See Tactic 2.1.1, Tactic 2.1.2, Tactic 2.1.3, Tactic 2.1.5		X	Ineffective stocking program.
			Tactic 2.1.4	X		
TACTIC 9.0.3	Evaluate stocking success and returns to angler to eliminate or modify ineffective stocking.	Voluntary and random creel census.	Waters as identified. Splake, Eagle Lake (Machar)		X	Ineffective stocking.
TACTIC 9.0.4	Monitor all stocked waters to ensure adequate habitat is available.	5 lakes per year. Winter & summer chemistry.	See Appendix 4	X		Ineffective stocking.
TACTIC 9.0.5.	Withold public notification of introductory stockings until such time as the population is established or of suitable size.	To be initiated on introductory stockings for the establishment of reproducing populations.	District wide where applicable			
TACTIC 9.0.6	Public access must be available on all waters stocked by M.N.R.		See Appendix 4	X		Access.
TACTIC 9.0.7	Provide put-and-immediate-take stocking in suitable lakes with good access, close to large population centres.	Locations dependent on Tactic 9.1.3.	Penfold, Spider (Stephenson) Hillman, Leonard (Monck) NL 965, NL 962 (Draper) Owl (Armour) Little Flower (Chaffey)		X	Ineffective stocking.

STRATEGY/TACTIC			LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 9.0.8	Improve quality of stocked fish, specific to the purpose of stocking, and community structure of water to be stocked eg. larger brook trout and lake trout in waters with strong competition.		See Appendix 4 Mary (Stephenson) Lake of Bays (Franklin) Muskoka (Muskoka) Rosseau (Wood) Bernard (Strong) Stocked brook trout waters included in Appendix 2.3.		X	Ineffective stocking.
TACTIC 9.0.9	Maintain a five year stocking list.		See Appendix 4.	X		Ineffective stocking.
TACTIC 9.0.10	Advertise location of stocked waters through media articles, District stocking lists, pamphlets and signage at lakes.		District wide.	X		Ineffective stocking.
STRATEGY 9.1:	Stocking new waters where environmental and access conditions are suitable.					
TACTIC 9.1.1	Stock splake and rainbow trout in suitable non-producing coldwater lakes. (Rainbows and splake will not be stocked on viable self-reproducing brook and lake trout populations.		Tactic 1.0.4. Locations dependent on Tactic 9.1.3.		X	Ineffective stocking.
TACTIC 9.1.2	Use lake reclamation and artificial mixing (destratification) to provide additional waters for stocking.		Buchanan (McClintock) Tactic 2.1.2.		X	Non-producing waters. Overharvest.
TACTIC 9.1.3	Continue lake inventory program to identify new	3 lakes per year.	Blue No. 234 (Proudfoot) Raft (Sinclair)		X	Non-producing waters.

STRATEGY/TACTIC		LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
	waters for stocking.	Nos. 574, 581, 705 Hinterland (Livingstone) Rochester (Perry) McRey (Macaulay) No. 586 (McClintock) No. 1203 (Ryde) No. 911, Woodbine, Upper Twin, Lower Twin (McLean) Nos. 2, 44, 31, 41, (Ballantyne) Music (Laurier) Fox (Bethune), Laural (Butt) Little Sunny (Morrison) Siding (Stephenson) Pine, Loon, Long Turtle (Muskoka) No. 171 (Paxton) Harts (Wood) Simpson (McCraney)			Overharvest.
TACTIC 9.1.4	Use walleye stocking for the purpose of rehabilitation of self-sustaining populations.	Muskoka (Muskoka) Rosseau (Wood) Kahshe (Draper)		X	Nonproducing waters.
STRATEGY 10.0:	Promote public awareness of the importance and threats to the fisheries resource, and principles of wise management.				
TACTIC 10.0.1	Improved communications and education by regular news-releases on District activities, pamphlets, displays, presentations to interest groups and schools, including efforts and results of fish management activities.	District wide.		X	Lack of public awareness.

STRATEGY/TACTIC		LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 10.0.2	Increase viewing opportunities and interpretive displays, including enhancement demonstration area.	Skeleton Lake Fish Culture Facility (Watt) Hoc Roc River (Muskoka) South Muskoka Falls (Muskoka)		X	Lack of public awareness.
TACTIC 10.0.3	Encourage public involvement in fisheries management activities, including rehabilitation C.F.I.P.), planning and regulatory changes (advisory group).	District wide.	X		Lack of public awareness.
STRATEGY 10.1:	Minimize user conflicts through interagency cooperation, resource planning and improved communications with user groups.				
TACTIC 10.1.1	Establish a District fishery advisory group to be involved in resource planning, regulatory changes and providing feed back to groups represented.	One group to represent the District.	X		User conflicts.
STRATEGY 11.0:	Maintain existing bait-fish populations to the benefit of the industry and sport fish population.				
TACTIC 11.0.1	Encourage development of bait-fish yield estimates and research directed at sport fish production in relation bait-fish harvest.	District wide.		X	Maintenance of bait-fishing and commercial use.
TACTIC 11.0.2	Consider a bait-fish block management system for the District.	District wide.	X		" "

STRATEGY/TACTIC	LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
STRATEGY 12.0: Maintain existing population of the grass pickerel.				
TACTIC 12.0.1 Delineate the current range, abundance and habitat requirements of the grass pickerel within the District.	Gartersnake River, Bass Lake (Ryde) Kahshe (Morrison)		X	Provincially rare and endangered species protection
TACTIC 12.0.2 Protect habitat of the grass pickerel, through public awareness and enforcement of existing legislation.	Dependent on delineation of range, Tactic 12.0.1.	X		" "
TACTIC 12.0.3 Create public awareness of the existence and identification of the species through media releases, pamphlets and displays.	Ryde & Morrison Twp.		X	" "
SPECIAL FISHERIES MANAGEMENT ZONE				
Strategy 13.0: Ensure the presentation of endemic fish populations.				
TACTIC 13.0.1 Update lake surveys on all lakes within the zone.	Mud, Trout, Stoney, Carmichael, Little Peyton, Beaver, Rocky, Crystal, Island (Paxton) Peyton, Wolf (Joly)	X		
TACTIC 13.0.2 Restrict use of live bait-fish on those waters currently unaltered by fish introductions or invasions.	To be determined by Tactic 13.0.1.	X		

STRATEGY/TACTIC		LOCATION NAME/(TOWNSHIP)	PRIORITY* 1	2	ISSUES/PROBLEMS ADDRESSED
TACTIC 13.0.3	Rehabilitate degraded spawning habitat.	Stoney Lake and others identified in Tactic 13.0.1.	X		
TACTIC 13.0.4	Regulate harvest within limits of allowable harvest, restrict or close winter fishing	Mud, Trout, Stoney, Carmicheal, Peyton			
TACTIC 13.0.5	Introduce wild brook trout	Beaver, Rocky			

APPENDICES

APPENDIX 1. Synopsis of Public Response to the Draft Management Plan

For the most part, public response to the draft management plan was positive and very supportive of the planning initiative.

Approximately 350 copies of the plan were distributed on request. A total of 98 individuals attended public information sessions, held in Bracebridge and Sundridge. Media contact advertising the public information sessions and the process included, television, radio and newspaper coverage.

Although public participation was rather low in numbers, the quality of responses and interest among participating individuals was high. The specific nature of the five year implementation schedule, in conjunction with increased expectations related to the new resident sport fish licence, generated additional interest in the plan.

Thirty-two percent of the 67 written responses received represented groups, increasing the overall representativeness of the sample.

For the most part, public comments were specific to individual waters of interest or value to the respondent. The most commonly expressed concerns with the draft plan related to the limited management directed at streams and rivers, bass populations, and northern townships. Strong support was expressed for: the closing of native trout waters to winter angling; additional stocking near population centres, and providing additional access.

Changes to the final plan have been made in response to public comments, provided a contribution towards the targets and feasibility, could be clearly demonstrated, within constraints.

Documentation of the public consultation process, participation and response, is kept on file at the Bracebridge District Office.

APPENDIX 2. COMMUNITY TYPE AND REPRODUCTIVE STATUS OF BROOK TROUT POPULATIONS IN THE BRACEBRIDGE DISTRICT.

Community Type[1]	Natural Reproduction Documented[2]				No Natural Reproduction Documented			
	Lake No.	Gazetteer[3] Name	Watershed	Geographical Township	Lake No.	Gazetteer Name	Watershed	Geographical Township
Appendix 2.1	46	NL*	2JE-4	Laurier	128	NL	2DD-23	Joly
	158	Capsell	2EA-21	Joly	134	NL	2DD-23	Ballantyne
	166	NL*(Royal)	2EA-21	Paxton	183	NL	2EA-21	Paxton
	172	NL*	2EA-21	Paxton	222	Dight	2EA-21	Joly
	173	NL*	2EA-21	Paxton	257	NL	2EA-22	Proudfoot
	174	NL	2EA-21	Paxton	296	NL	2EA-22	Butt
	175	NL	2EA-21	Paxton	437	NL*	2EB-15	McCraney
	182	Little Peyton	2EA-21	Paxton	444	NL	2EB-15	McCraney
	187	NL*	2EA-21	Paxton	446	Ink	2EB-15	Bethune
	188	NL	2EA-21	Paxton	522	NL	2EB-15	Sinclair
	208	NL	2EA-21	Butt	578	Crystalline	2EB-11	Livingstone
	273	Whetstone	2EA-22	Proudfoot	585	Bright	2EB-11	McClintock
	285	NL	2EA-22	Butt	579	Roger	2EB-11	Livingstone
	294	Pine*	2EA-22	Butt	655	Wilbur	2EB-11	McClintock
	303	NL (Nabdoe)	2EA-22	Butt	657	NL	2EB-11	McClintock
	317	Little Butt*	2EA-22	Butt	852	Eiler	2EB-10	McClintock
	322	Wilkins	2EA-22	Proudfoot	857	Wells	2EB-10	Franklin
	406	Doughnut	2EB-15	Finlayson	863	Docker	2EB-10	Franklin
	580	Sunrise*	2EB-11	Livingstone	1108	Grant	2EC-15	Ridout
	588	Niger	2EB-11	McCLintock	1111a	NL	2EC-15	Ridout
	611	Upper Oxbow	2EB-11	Finlayaon	1120	NL	2EC-15	Ridout
	621	Thumb	2EB-11	McClintock				
	717	NL	2EB-12	Livingstone				
	720	East Jeannie	2EB-12	Livingstone				
	722	Clayton*	2EB-12	Livingstone				
	805	Cod*	2EB-10	McClintock				
	1246	NL	2EB-7	Cardwell				

Community Type[1]	Natural Reproduction Documented[2]				No Natural Reproduction Documented			
	Lake No.	Gazetteer[3] Name	Watershed	Geographical Township	Lake No.	Gazetteer Name	Watershed	Geographical Township
Appendix 2.2	10	Kuwasda	2JE-4	Ballantyne	84	Twelve	2DD-23	Laurier
	87	Hawe	2DD-23	Laurier	186	NL	2EA-21	Paxton
	159	Long	2EA-21	Joly	199	NL	2EA-21	Joly
	160	Dead Horse	2EA-21	Joly	202	Bluesky	2EA-21	Joly
	167	Butterfield	2EA-21	Joly	204	NL	2EA-21	Butt
	169	Paisley	2EA-21	Joly	205	NL	2EA-21	Butt
	189	Peyton	2EA-21	Joly	245	Larson	2EA-21	Armour
	203	NL*	2EA-21	Proudfoot	445	Coffee	2EB-15	McCraney
	260	Frank	2EA-22	Proudfoot	692	Minkey	2EB-12	Livingstone
	269	Little Whetstone*	2EA-22	Proudfoot				
	301	NL	2EA-22	Proudfoot				
	397	Nightfall	2EB-15	McCraney				
	438	Round	2EB-15	McCraney				
	518	Split Rock	2EB-15	Sinclair				
	598	Martencamp*	2EB-11	Finlayson				
	607	Little Nelson	2EB-11	Finlayson				
	697	Sward*	2EB-12	Livingstone				
	719	East Jeannie	2EB-12	Livingstone				
	1284	Bunn	2EB-8	Watt				
Appendix 2.3	19	Corkery	2JE-4	Ballantyne	8	Little Tyne	2JE-4	Ballantyne
	30	Kawawaymog	2JE-4	Ballantyne	20	Cornick	2JE-4	Ballantyne
	79	Sausage*	2DD-23	Laurier	27	Pat	2JE-4	Ballantyne
	90	Goose Egg*	2DD-23	Laurier	33	Wet	2JE-4	Ballantyne
	94	Beautiful*	2DD-23	Laurier	34	NL	2JE-4	Ballantyne
	100	Lambs	2DD-23	Laurier	53	NL*	2JE-4	Joly
	129	NL	2DD-23	Joly	89	Timpano*	2DD-23	Laurier
	132	NL	2DD-23	Ballantyne	91	Seven*	2DD-23	Laurier
	281	NL	2EA-22	Proudfoot	98	Laurier	2DD-23	Laurier

Community Type[1]	Natural Reproduction Documented[2]				No Natural Reproduction Documented			
	Lake No.	Gazetteer3 Name	Watershed	Geographical Township	Lake No.	Gazetteer Name	Watershed	Geographical Township
Appendix 2.3 (con't)	309	NL	2EA-22	Butt	130	Hinsburger	2DD-23	Ballantyne
	314	NL	2EA-22	Butt	131	Osborne	2DD-23	Ballantyne
	321	Little Patterson	2EA-22	Proudfoot	137	Genesee	2DD-24	Ballantyne
	459	Nelson*	2EB-15	Finlayson	284	Fetterly	2EA-22	Proudfoot
	506	Verner*	2EB-15	Sinclair	302	Middle Shanty*	2EA-22	Butt
	529	Surprise	2EB-15	Sinclair	330	Twenty Eight	2EA-22	Bethune
	575	Crown*	2EB-11	Livingstone	345	NL	2EA-22	Armour
	614	Big Hoover	2EB-11	Finlayson	389	NL	2EA-20	Strong
	674	Troutspawn*	2EB-12	Livingstone	507	NL	2EB-15	Sinclair
	683	Little Louie	2EB-12	Livingstone	536	NL	2EB-15	Chaffey
	704	NL	2EB-12	Livingstone	553	Perch	2EB-16	Perry
	730	Fisher	2EB-12	McClintock	569	Little Arrowhead	2EB-16	Chaffey
	734	Bloody*	2EB-12	McClintock	582	Greenwood	2EB-11	Livingstone
	736	Poorhouse*	2EB-12	Livingstone	666	Luck*	2EB-12	Livingstone
	745	Buchanan	2EB-12	McClintock	676	NL	2EB-12	Livingstone
	746	Millichamp	2EB-12	McClintock	709	Rockaway	2EB-12	Livingstone
	751	Limburner	2EB-12	McClintock	740	NL	2EB-12	McClintock
	753	Harvey	2EB-12	McClintock	769	NL	2EB-12	Livingstone
	989	NL	2EB-13	Stisted	777	NL	2EB-12	Havelock
	1136	Ridout*	2EC-15	Ridout	855	Burns	2EB-10	Franklin
	1192	Gartersnake	2EC-16	Draper	897	Mink	2EB-9	Ridout
					974	NL	2EB-9	Oakley
					983	Langford	2EB-13	Perry
					1105	Sunken	2EC-15	Sherborne
					1254	NL	2EB-7	Watt

Community Type[1]	Natural Reproduction Documented[2]				No Natural Reproduction Documented			
	Lake No.	Gazetteer[3] Name	Watershed	Geographical Township	Lake No.	Gazetteer Name	Watershed	Geographical Township
Appendix 2.4	4	Tyne	2JE-4	Ballantyne				
	133	Loxton*	2DD-23	Ballantyne				
	206	Graphite	2EA-21	Butt	214	North	2EA-21	Proudfoot
	230	NL	2EA-21	Proudfoot	229	Widgeon	2EA-21	Joly
	232	Crooked*	2EA-21	Proudfoot	256	Grass	2EA-22	Proudfoot
	235	Island*	2EA-21	Proudfoot	275	Lower Raven	2EA-22	Proudfoot
	391	Bernard	2EA-20	Strong	331	Sand	2EA-22	Proudfoot
	474	Morgan's	2EB-15	Bethune	478	Hungry	2EB-15	Bethune
	482	Heck	2EB-15	Sinclair	542	Emsdale	2EB-16	Bethune
	531	NL	2EB-15	Chaffey	545	Bay	2EB-16	Perry
	562	Waseosa	2EB-16	Chaffey	605	Dotty	2EB-11	Finlayson
	625	Oxtongue	2EB-11	McClintock	686	Bear	2EB-12	Livingstone
	684	Louie	2EB-12	Livingstone	770	Kimball	2EB-12	Livingstone
	685	Livingstone	2EB-12	Livingstone	890	Longline	2EB-10	Franklin
	737	Fletcher*	2EB-12	McClintock	973	Bigwind	2EB-9	Oakley
	743	McFadden	2EB-12	McClintock	1016	Harp	2EB-13	Chaffey
	800	Kawagama	2EB-12	Sherborne	1063a	Mary	2EB-13	Brunel
	845	Crotch	2EB-10	Sinclair	1121	Black	2EC-15	Ridout
	896	Lake of Bays	2EB-10	Franklin	1126	Blue Chalk	2EC-15	Ridout
	906	Ril	2EB-9	Ridout	1240	Skeleton	2EB-7	Watt
	1312	Muskoka	2EB-4	Muskoka				
Appendix 2.5	171	NL	2EA-21	Paxton	32	NL	2JE-4	Ballantyne
	662	NL	2EB-11	Franklin	58a	NL	2JE-4	Paxton
	765	Merdie	2EB-12	Livingstone	111	NL	2DD-23	Laurier
					291	NL	2EA-22	Butt
					404	NL	2EB-15	Finlayson
					419	NL	2EB-15	Finlayson
					420	NL	2EB-15	Finlayson
					453	NL	2EB-15	McCraney

Community Type[1]	Natural Reproduction Documented[2]				No Natural Reproduction Documented			
	Lake No.	Gazetteer[3] Name	Watershed	Geographical Township	Lake No.	Gazetteer Name	Watershed	Geographical Township
Appendix 2.5 (con't)					462	Greenfish	2EB-15	Finlayson
					493	Hart	2EB-15	Bethune
					494	NL	2EB-15	Bethune
					508	NL	2EB-15	Sinclair
					509	NL	2EB-15	Sinclair
					570	NL	2EB-16	Chaffey
					856	Roadline	2EB-10	Franklin

[1] Community Type: 2.1 Brook trout and cyprinids and/or brook stickleback and/or lake herring.
2.2 Brook trout and cyprinids and/or white sucker.
2.3 Brook trout and cyprinids and/or white sucker and/or yellow perch and/or pumpkinseed.
2.4 Complex fish community including other sport fish species.
2.5 Community type unknown.

[2] Natural reproduction is based on observations of spawning activity by fisheries staff and/or apparent natural fish in catch records. In some instances, natural reproduction may not be documented by fisheries staff although spawning beds may be reported by local residents.

[3] Lakes not listed in the Gazetteer of Canada are designated 'NL'.

* Spawning beds documented.

APPENDIX 3. Reproductive Status of Lake Trout Populations - Bracebridge District

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APPENDIX 3.1 Natural Reproduction (greater than 75% natural).

Camp	Finlayson
Slipper	Havelock
Kimball	Livingstone
Bear	Livingstone
Lake Joseph	Medora
Clearwater	Morrison
North	Proudfoot
Upper Raven	Proudfoot
Sweney	Proudfoot
Oliphant	Proudfoot
McCann	Proudfoot
Kawagama	Sherborne
Solitaire	Sinclair
Buck	Sinclair

APPENDIX 3.2 Combination Natural and Artificial (between 25 and 75% natural).

Skeleton	Watt
Oxbow	Finlayson
Fifteen Mile	Franklin
Lake of Bays	Franklin
Penninsula	Franklin
Tasso	Finlayson
South Wildcat	Havelock
Clinto	McClintock
Fletcher	McClintock
McFadden	McClintock
Oxtongue	McClintock
Rosseau	Medora
Clear	Oakley
Lower Raven	Proudfoot
Pevensey	Proudfoot
Proudfoot	Proudfoot
Sand	Proudfoot
Blue Chalk	Ridout
Red Chalk	Ridout
Bella	Sinclair
Rebecca	Sinclair
Mary	Stephenson
Bernard	Strong
Youngs	Watt
Graphite	Butt

APPENDIX 3. (cont'd) **Reproductive Status of Lake Trout Populations - Bracebridge District.**

APPENDIX 3.3 Artificial (less than 25% natural).

Loxton	Ballantyne
Emsdale	Bethune
Fairy	Brunel
Cardwell	Cardwell
Harp	Chaffey
Vernon	Chaffey
Waseosa	Chaffey
Dotty	Finlayson
Bacon	Laurier
East Tower	Laurier
Livingstone	Livingstone
Louie	Livingstone
Lower Fletcher	McClintock
Muskoka	Monck
Bigwind	Oakley
Pine	Oakley
Bay	Perry
Grandview	Ridout

APPENDIX 4. Five Year Stocking List - Bracebridge District

Lake Trout:	Bear	Livingstone
	Bella	Sinclair
	Bernard	Strong
	Bigwind	Oakley
	Blue Chalk	Ridout
	Camp	Finlayson
	Cardwell	Cardwell
	Clear	Oakley
	Clinto	McClintock
	Dotty	Finlayson
	Emsdale	Bethune
	Fifteen Mile	Franklin
	Fletcher	McClintock
	Harp	Chaffey
	Lake of Bays	Franklin
	Rosseau	Medora
	Livingstone	Livingstone
	Lower Raven	Proudfoot
	Mary	Stephenson
	McFadden	McClintock
	Muskoka	Muskoka
	Oxbow	Finlayson
	Oxtongue	McClintock
	Peninsula	Sinclair
	Pevensey	Proudfoot
	Proudfoot	Proudfoot
	Red Chalk	Ridout
	Sand	Proudfoot
	Sixteen Mile	Franklin
	Skeleton	Watt
	Tasso	Finlayson
	Vernon	Chaffey
	Young	Watt
Brook Trout:	Allen	McClintock
	Beautiful	Laurier
	Big Hoover	Finlayson
	Bigwind	Oakley
	Blue Paint	Livingstone
	Bright	McClintock
	Burnt	Butt
	Capsule	Joly
	Chipmunk	McClintock
	Clayton	Livingstone
	Cod	McClintock
	Crooked	Proudfoot
	Crown	Livingstone
	Doughnut	Finlayson
	Dunstan	Bethune
	E. Jeannie	Livingstone
	E. Tower	Laurier
	Eiler	McClintock

APPENDIX 4. **Five Year Stocking List - Bracebridge District**
(Cont'd)

	Finger	Butt
	Fisher	McClintock
	Greg	Proudfoot
	Heck	Sinclair
	Himsburger	Ballantyne
	Hungry	Bethune
	Klingbiel	Cardwell
	Kuwasda	Ballantyne
	Laurier	Laurier
	Limburner	McClintock
	Little Nelson	Finlayson
	Little Trout	Livingstone
	Little Widgeon	Proudfoot
	Long	Joly
	Louie	Livingstone
	Luck	Livingstone
	Martencamp	Finlayson
	Millichamp	McClintock
	Nabdoe	Butt
	Niger	McClintock
	North Havelock	Havelock
	Otter	Joly
	Pine	Butt
	Paisley	Joly
	Poorhouse	Livingstone
	Red Deer	Laurier
	Roger	Livingstone
	Round	McCraney
	Sunrise	Livingstone
	Surprise	Sinclair
	Tea	Proudfoot
	Tasso	Finlayson
	Troutspawn	Livingstone
	Upper Oxbow	Finlayson
	Verner	Sinclair
	West Ermine Lake (404)	Finlayson
	Whetstone	Proudfoot
	Wilbur	McClintock
	Blue Jay	Ridout
	Insula	Ridout
Splake:	Black	Ridout
	Flaherty	McClintock
	Grandview	Ridout
	Harvey	McClintock
	Little Clear	Sinclair
	Longline	Ridout
	Schamerhorn	Perry
	Tyne	Ballantyne
	Widgeon	Joly
	Middle Shanty	Butt
	Paint Lake	Ridout
	Hardy	Wood

APPENDIX 4. **Five Year Stocking List - Bracebridge District**
(Cont'd)

Rainbow:	Fetterley	Proudfoot
	Crosson	Oakley
	Foote, Ink	Bethune
	High	Watt
	Hoc Roc River	Muskoka
	Lambs	Laurier
	Leonard	Monck
	Waseosa, Little Flower	Chaffey
	Long, Torrance	Wood
	Loxton, Shaw	Ballantyne
	Lynch	Joly
	Odiekirk	Butt
	Shoe	Ridout
	Smyth, Wendigo	Laurier
	Sunken	Sherborne
	Walker	Sinclair
	Lower Fletcher	McClintock
Walleye:	Kahshe	Morrison
	Muskoka	Muskoka
	Rosseau	Medora

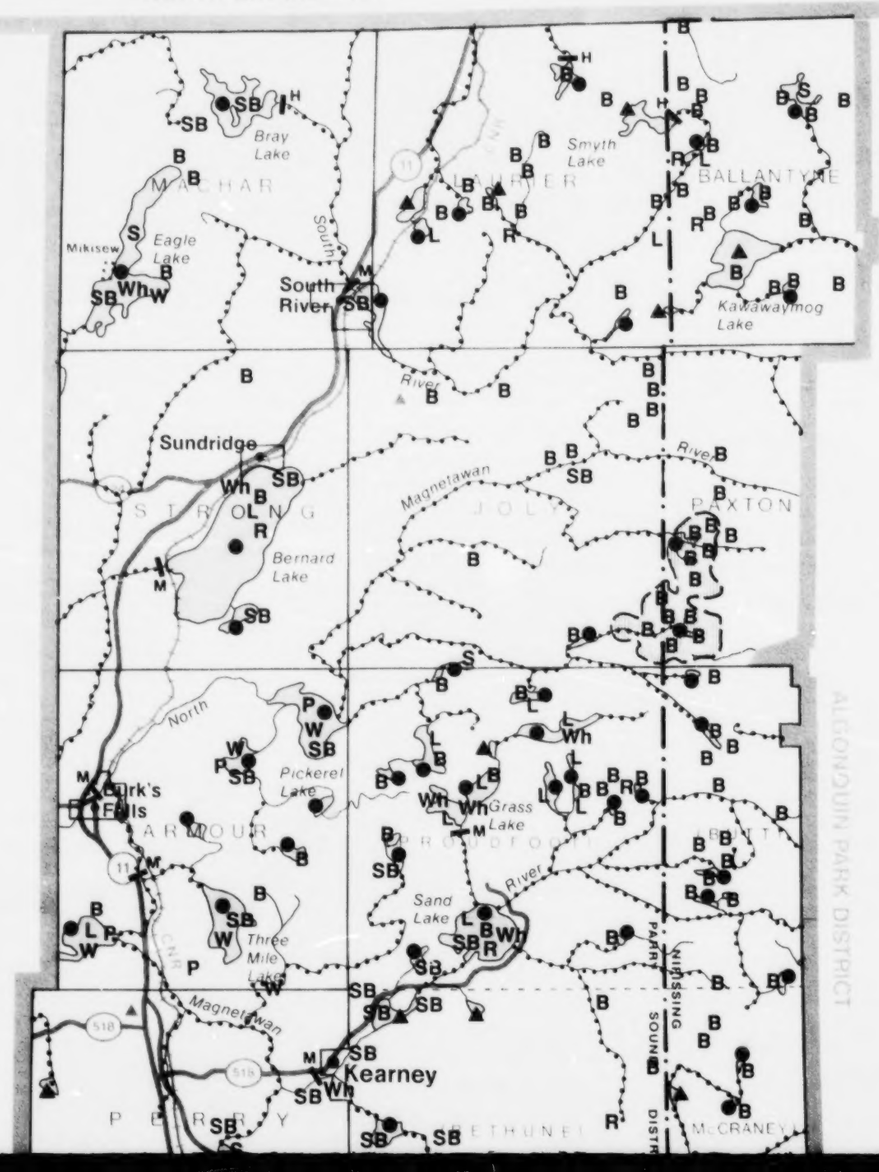
FIGURE 2:
BRACEBRIDGE DISTRICT BACKGROUND INFORMATION

LEGEND

- Special Fisheries Management Zone
- ▲ Warmwater Lake
- ● Coldwater Lake
- ····· Coldwater Stream
- M M.N.R. Dam
- H Hydro Dam
- H Hydro Generating Station

Fish Species:

L	Lake Trout
B	Brook Trout
R	Rainbow Trout
S	Splake
Wh	Whitefish
W	Walleye
P	Pike
Mu	Muskellunge
SB	Smallmouth Bass
LB	Largemouth Bass
G	Grass Pickerel



M M.N.R. Dam

H Hydro Dam

H Hydro Generating Station

S Splake

Wh Whitefish

W Walleye

P Pike

Mu Muskellunge

SB Smallmouth Bass

LB Largemouth Bass

G Grass Pickerel

PARRY SOUND DISTRICT

ALGONQUIN PARK DISTRICT

DISTRICT MUNICIPALITY OF MUSKOKA

Burk's Falls

Kearney

Huntsville

Bracebridge

Baysville

Port Carling

North Pickerel Lake

Grass Lake

Sand Lake

Three Mile Lake

Magnetawan River

Fox Lake

Bay Lake

Cardwell Lake

Lake Vernon

Arrowhead

East Peninsula Lake

Bella Lake

Camp Lake

Lake Joseph

Lake Rosseau

Skeleton Lake

Fairy Lake

Dwight

Oxtongue Lake

Clinto Lake

Lake of Bays

Mary Lake

Three Mile Lake

Lake Muskoka

Muskoka River

Muskoka River

Bala Bay

St. Mary Lake

Ril Lake

Raven Lake

Dorset

Troutspawn Lake

Crown Lake

Livingstone Lake

Kawagama Lake

South Wildcat Lake

HALIBURTON COUNTY (Provisional)

LESLIE M. FROST NATURAL RESOURCES CENTRE

MUSKOKA LAKES

PARRY SOUND DISTRICT

MISSISSING DISTRICT

NIPISSING DISTRICT

HAVELOCK

SHERBORNE

LIVINGSTONE

MACKINTOCK

(ARMOUR)

(BETHUNE)

(BRUNEL)

(CARLING)

(CHAFFEY)

(CHAPMAN)

(CROWTHER)

(FRANK)

(HAGERMAN)

(HARRISON)

(HUNTSVILLE)

(JOLY)

(MACAULAY)

(MCLEAN)

(MEDORA)

(MONCK)

(MORRISON)

(OSLER)

(RYERSON)

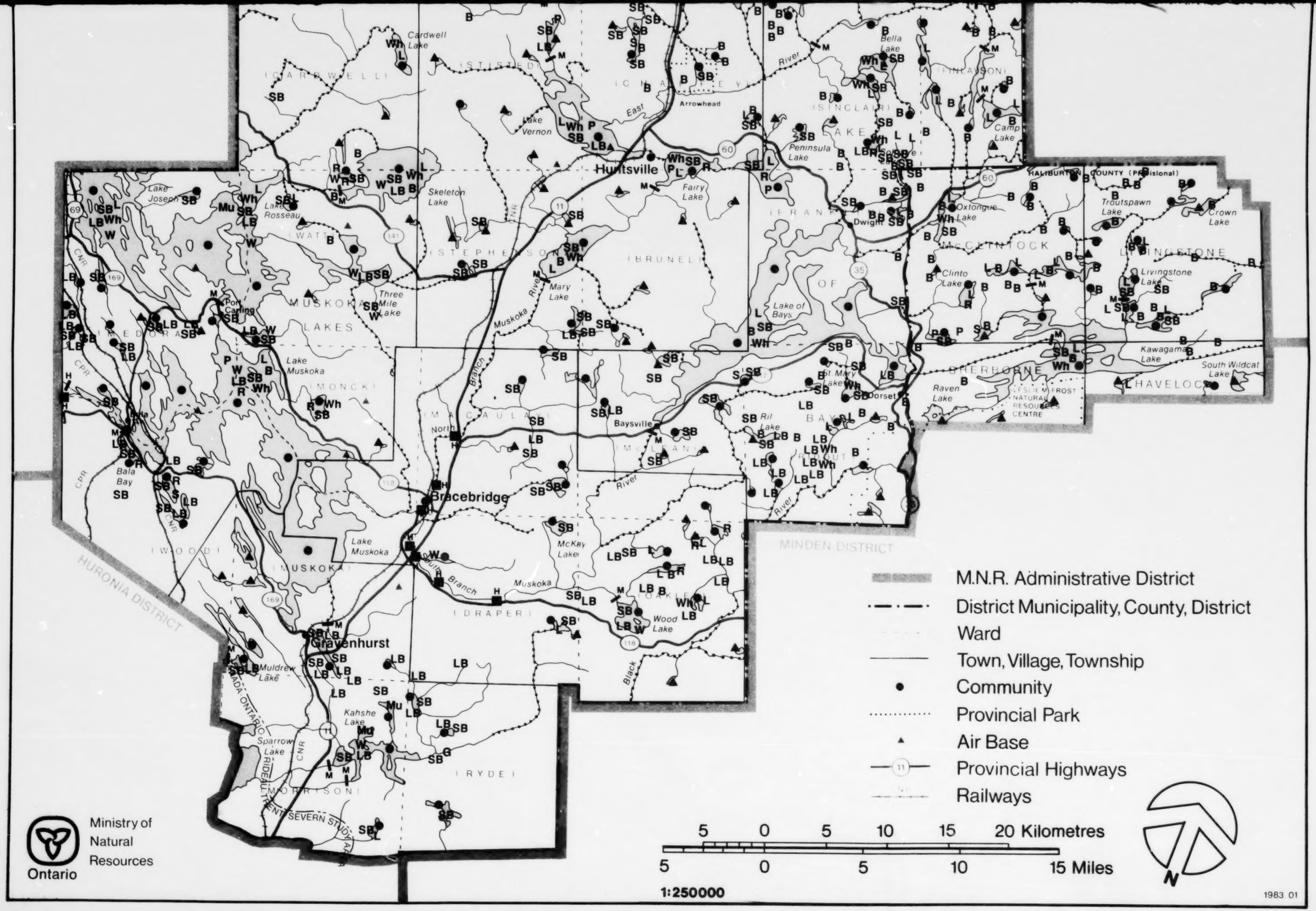
(SINCLAIR)

(STEPHENSON)

(WATT)

CNR

CPR


Cardwell Lake
Lake Joseph
Lake Rosseau
Lake Vernon
Arrowhead
Huntsville
Skeleton Lake
Fairy Lake
Peninsula Lake
Bella Lake
Camp Lake
Oxtongue Lake
Dwight
Trout Spawn Lake
Crown Lake
Clinto Lake
Livingstone Lake
Kawagama Lake
South Wildcat Lake
Raven Lake
St. Mary Lake
Dorset
Three Mile Lake
Mary Lake
Lake of Bays
Lake Muskoka
Port Carling
Bala Bay
Baysville
Bracebridge
McKay Lake
Wood Lake
Gravenhurst
Muldrew Lake
Kahshe Lake
Sparrow Lake
North Branch Muskoka River
Muskoka River
East Branch Muskoka River
Black River
Ril Lake
(CARDWELL)
(STISTED)
(CHAFFEY)
(SINCLAIR)
(FINLAYSON)
(LAKE)
(FRANKLIN)
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(STEPHENSON)
(MACAULAY)
(McLEAN)
(ORILLIA)
(MONCK)
(WOOD)
(MUSKOKA)
(DRAPER)
(RYDE)
(MORRISON)
(HUNTSLEY)
(BAYS)
(McCLINTOCK)
(LIVINGSTONE)
(SHERBORNE)
(HAVELOCK)
HALIBURTON COUNTY (Provisional)
MINDEN DISTRICT
HURONIA DISTRICT
LESLIE M. FROST NATURAL RESOURCES CENTRE
CNR
CPR
RIDEAU-TRENT-SEVERN STUDY AREA
M.N.R. Administrative District
District Municipality, County, District
Ward
Town, Village, Township
Community
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Air Base
Provincial Highways
Railways
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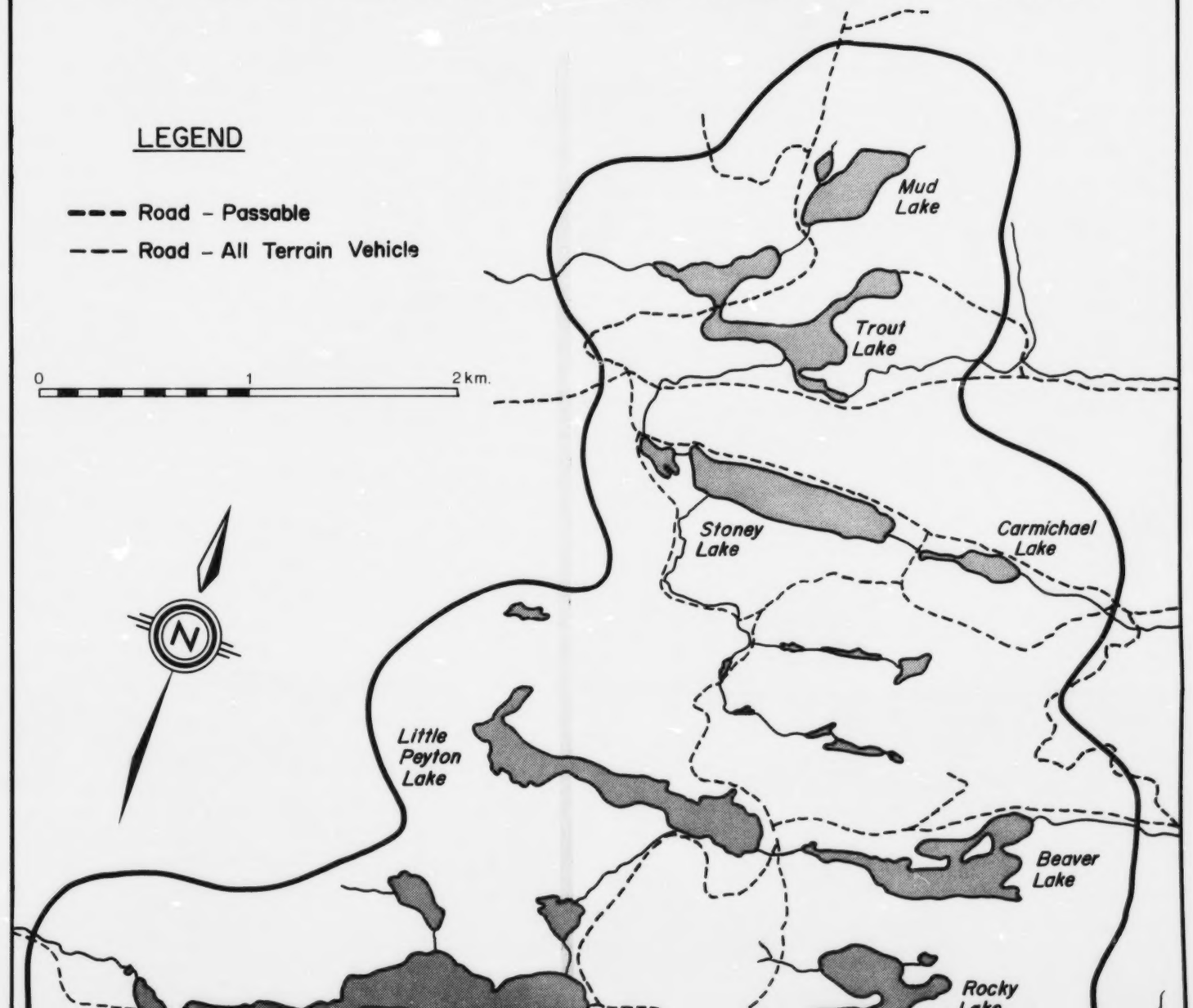
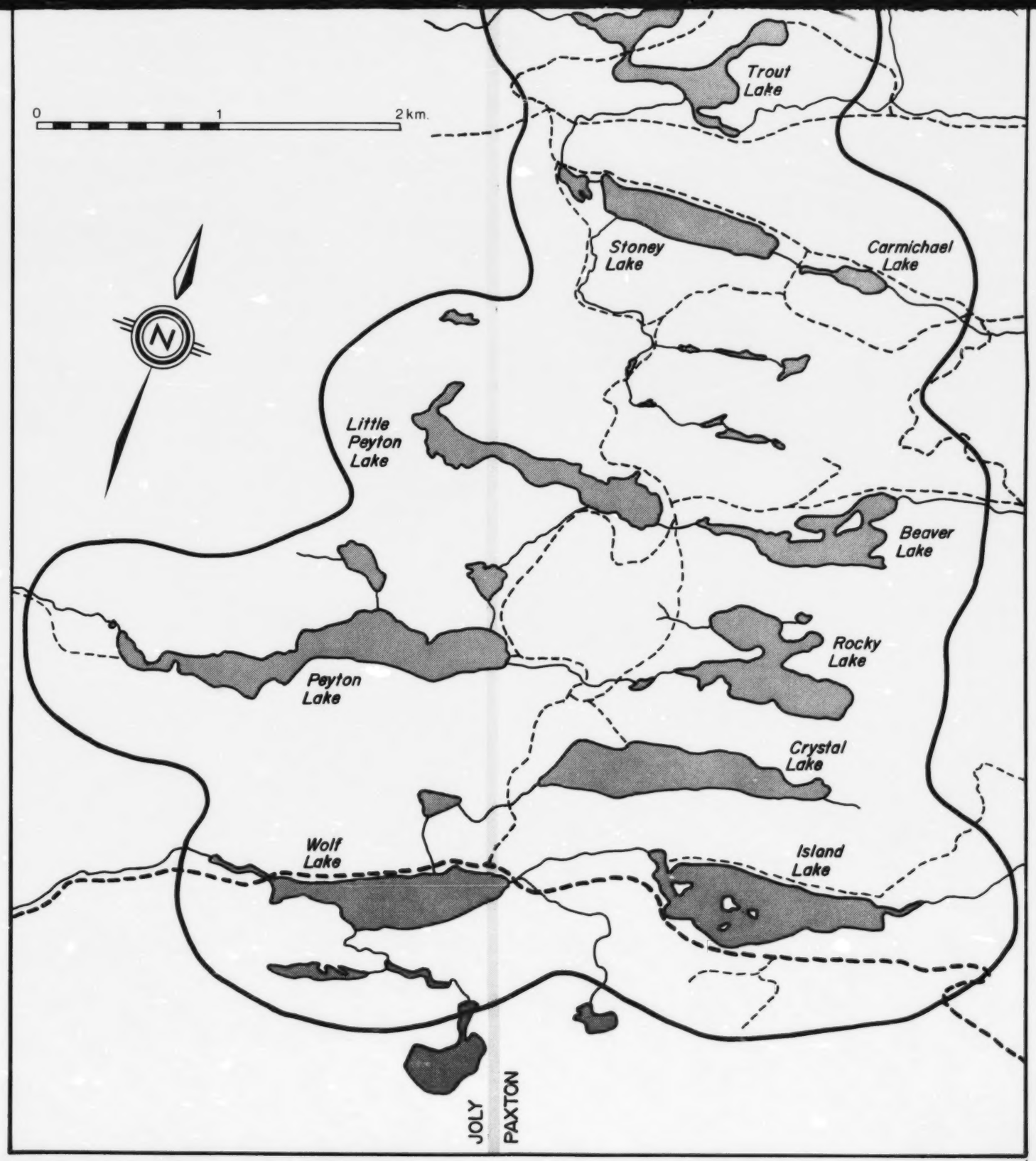
FIGURE 3:
BRACEBRIDGE DISTRICT
SPECIAL FISHERIES MANAGEMENT ZONE

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Trout Lake
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Carmichael Lake
Little Peyton Lake
Beaver Lake
Rocky Lake
Peyton Lake
Crystal Lake
Wolf Lake
Island Lake
JOLY
PAXTON

FIGURE 4:
BRACEBRIDGE DISTRICT MANAGEMENT TACTICS

LEGEND

Evaluation of Habitat and Population

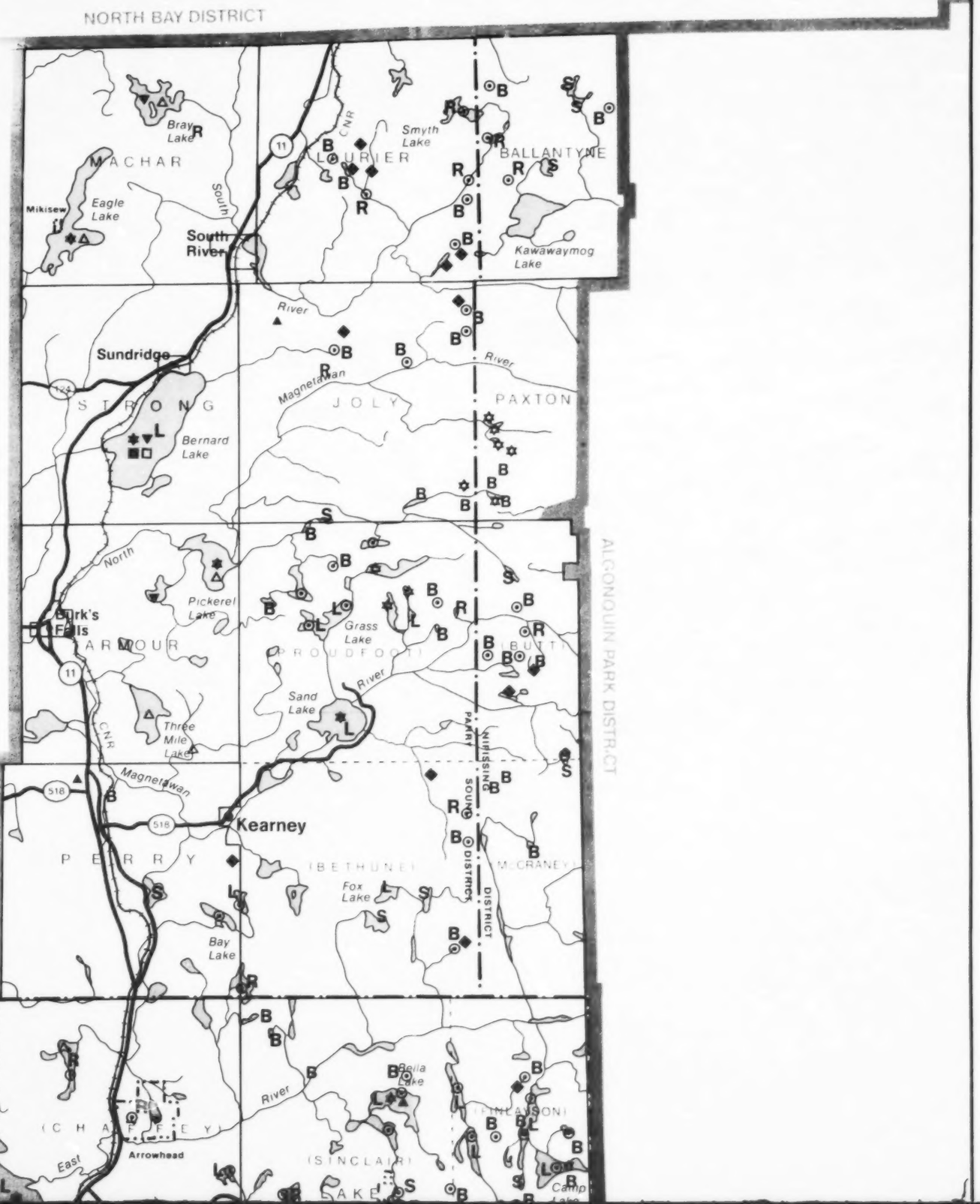
- ⊙ Monitor late summer water chemistry
- ▼ Conduct harvest and population assessment to recommend harvest controls
- △ Index netting
- ■ Evaluate water level fluctuations
- ✱ Identify critical habitat or sensitive sites

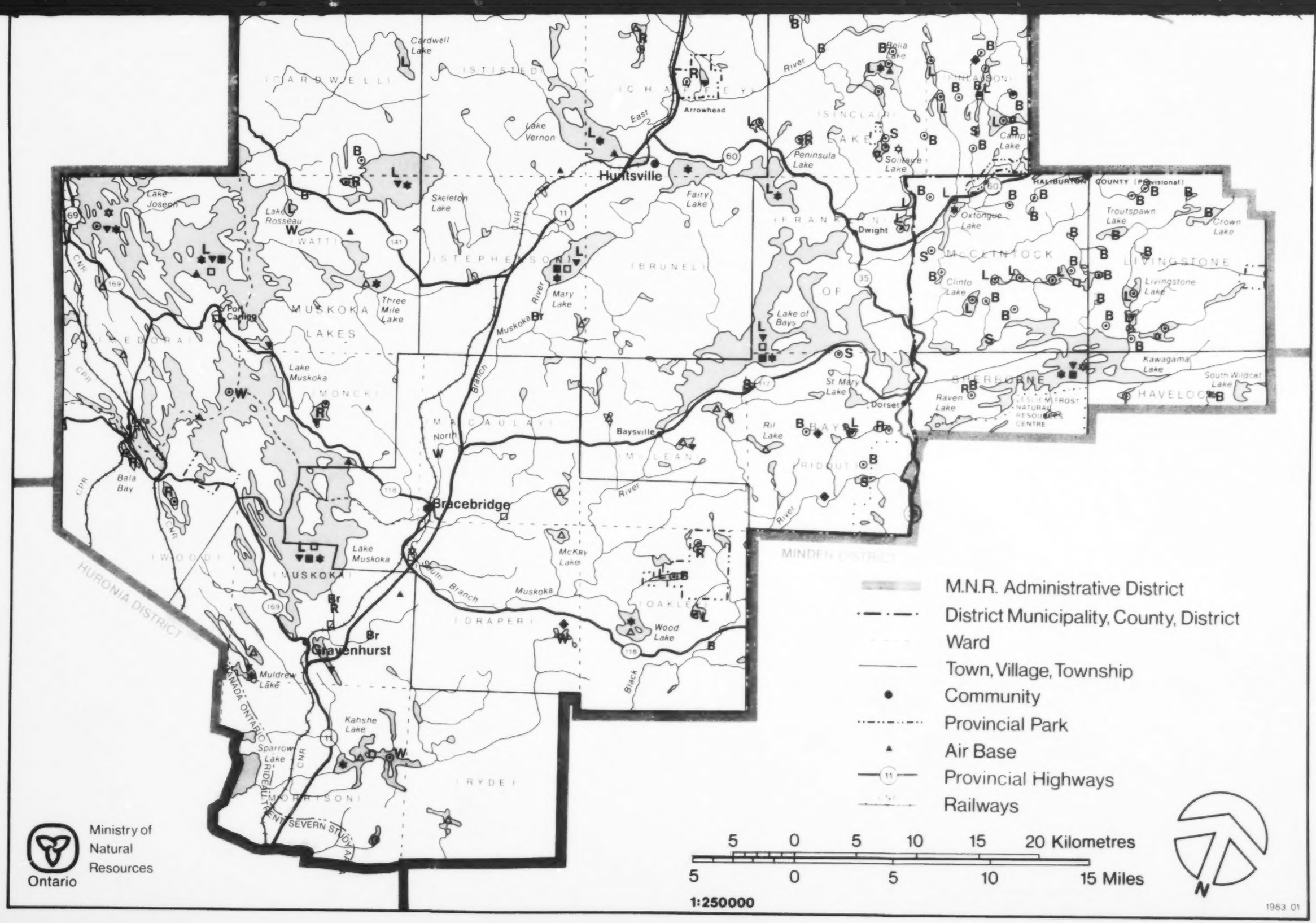
Management of Habitat and Population

- ✡ Initiate and assess harvest controls
- ◆ Lake reclamation
- □ Habitat enhancement

Stock hatchery fish

- **L** Lake Trout
- **B** Brook Trout
- **R** Rainbow Trout
- **S** Splake
- **W** Walleye
- **Br** Brown Trout




Huntsville
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Muldrew Lake
Kahshe Lake
Sparrow Lake
Wood Lake
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